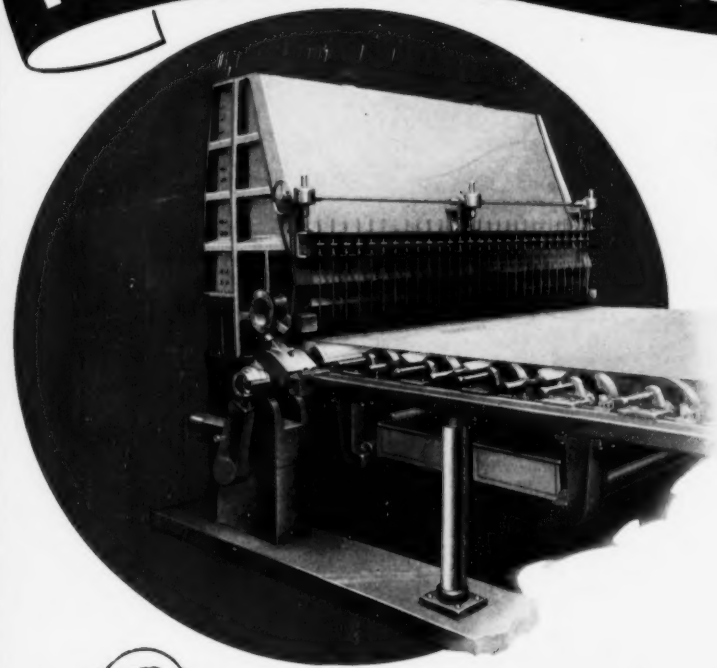
Paper TRADE JOURNAL

SEPTEMBER 15, 1949

PUBLISHED WEEKLY

Fine Control of Stock Delivery



Sandy Hill

Flow Control Unit

Operating on all kinds of stock from grease proof to water leaf and at speeds from 300 ft. to 1400 ft. per min. They combine best delivery to the pond, modern design of pond, and a hydraulically correct nozzle delivering to the wire.

THE SANDY HILL IRON & BRASS WORKS

HUDSON FALLS, N. Y.

DUST-PROOF HELMET THAT TURNS WITH THE HEAD

...another example of what the American Anode process can do

THE hood pictured here makes work so much easier and safer for sandblasters. It's light in weight—has a shatter-proof, metal-protected glass window. It fits snugly and comfortably. Pressure supplies air to the wearer, keeps out dirt and dust.

This helmet is made possible by the American Anode process—a method whereby latices and mixes are deposited on a form, even a shape as intricate as this hood. Here's another important advantage. In ponderous, conventional type helmets, the operator's head turns inside the helmet—he must turn his entire body to bring work into his field of vision. It's fatiguing for the operator—inefficient for his work. This improved helmet is flexible—it turns *with* the operator's head.

American Anode mixes, and the Anode process, have scored many successes in the textile, paper, toy manufacturing, medical, and electro-plating fields. The mixes can be compounded in a rainbow of colors. They may be sprayed, spread, saturated, dipped or brushed. They can be compounded to meet a wide variety of service conditions.

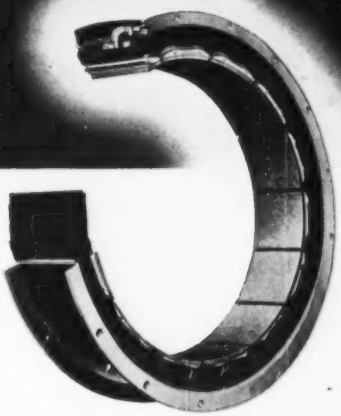
We may have the answers you're looking for—to improve products or develop new ones. For complete information, please write Dept. AF-6, American Anode Inc., 60 Cherry St., Akron, Ohio.

AMERICAN ANODE

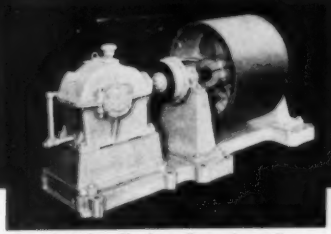
CRUDE AND AMERICAN RUBBER LATICES, WATER CEMENTS AND SUSPENSIONS, AMERAN RESIN PASTES

ONLY ONE MOVING PART

in this Fawick Clutch

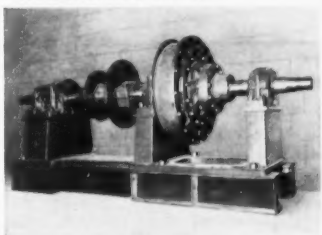


Fawick Airflex Clutch or Brake Type CB



Fawick Airflex Clutch on Pusey Jones Corporation Dryer Drive at Maracalus Mfg. Co., East Paterson, New Jersey.

Fawick Airflex Clutches on 3 Press Drives of No. 2 Paper Machine at Howard Smith Paper Co., Ltd., Cornwall, Ontario.



Fawick Airflex Clutch used on No. 3 Paper Machine Dryer Drive at Hammermill Paper Co., Erie, Pennsylvania.

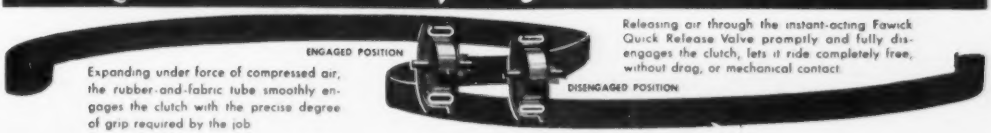
The rubber-and-fabric pneumatic tube faced with friction shoe assemblies is the only moving part in this Fawick Clutch. This part naturally stays in perfect adjustment at all times—automatically compensating for wear of the friction shoes.

Job-tested, Fawick Clutches meet the toughest operating conditions in many fields—petroleum, earth-moving, metalworking, rubber, paper, pulp and others.

Write our engineering department for a recommendation of the Fawick elements best suited for your machines. Address Dept. PT.

FAWICK CO., INC.

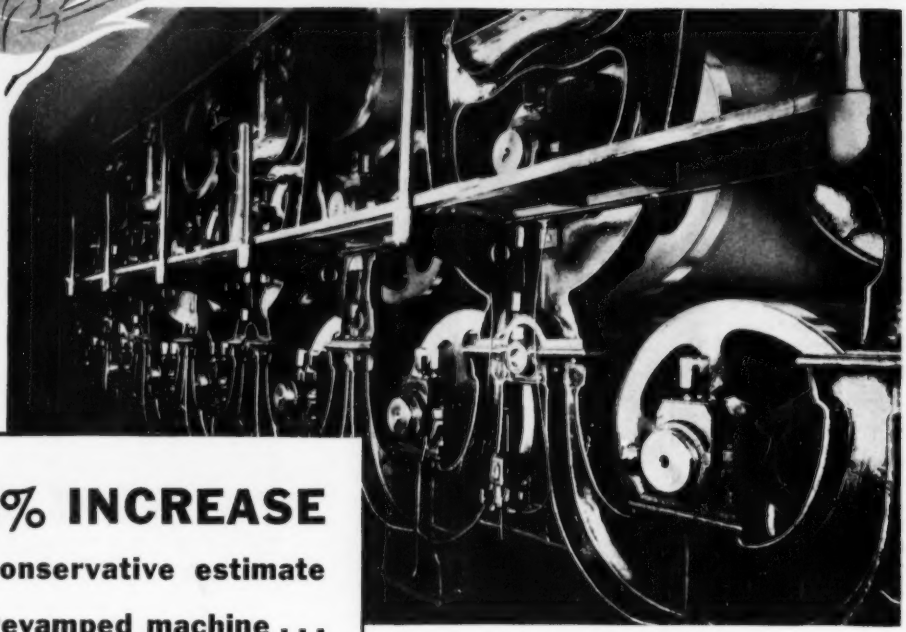
Airflex



Expanding under force of compressed air, the rubber-and-fabric tube smoothly engages the clutch with the precise degree of grip required by the job

Releasing air through the instant-acting Fawick Quick Release Valve promptly and fully disengages the clutch, lets it ride completely free, without drag, or mechanical contact

Helping speed up production of Carey Fire-Chex Shingles



16% INCREASE

is conservative estimate on revamped machine . . .

24 Lukenweld Jacketed Steel Drier Rolls replaced rolls of another type of construction on the dry end of this 3-high felt machine at The Philip Carey Manufacturing Company, Lockland, Ohio.

New product of The Philip Carey Manufacturing Company, Fire-Chex Shingles are the first and only shingles, without an underlayment, to be awarded a Class A rating by Underwriters' Laboratories, Inc. Lukenweld Drier Rolls have an important part in the production of these shingles.

Replacement of 24 old-style rolls on a 3-high felt machine with Lukenweld Jacketed Steel Drier Rolls resulted in a substantial increase in production—conservatively estimated at 16%.

These properties help account for this increase; steam passages in Lukenweld Rolls are narrow, forcing high-speed circulation and scavenging. The jacketed steel plate construction permits thinner sections, causing heat to be transferred rapidly and uniformly. Lukenweld Jacketed Steel Drier Rolls can be safely operated at high steam pressures—up to 350 psi and higher.

If you want rolls to replace present equipment or complete new machines, we'll help select what you need, design and build the complete drier unit. Bulletin 358 tells you more about Lukenweld Jacketed Steel Drier Rolls; Bulletin 505 gives actual case histories on applications in various industries. For copies, write Lukenweld, Division of Lukens Steel Co., 403 Lukens Bldg., Coatesville, Pa.

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MEMBER

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Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, September 14, 1949.

The more one knows about current business conditions, the more he learns is unknown, and the less he finds himself able to say.

In the face of varying opinions of leading economists and financiers, the historic international conferences on the monetary crisis and world trade, and with major labor strikes impending, the nerve-center of the industry's thinking and planning is a well-defined disbelief in the permanence of the so-called "budding business recovery." The consensus is that adjustments in primary supply conditions are not ended, that the heavy buying which has so effectively firmed the market is solely to replenish stocks in anticipation of Fall and Christmas trade, and that the pickup will peter out. A genuine recovery will not come until early in 1950, some believe.

Trend Is Uncertain

The uncertainty is described as healthily competitive. Demand has temporarily firmed prices of primary supplies, as well as paper and paperboard products. Slackening of the demand would depress prices because of heavy primary supplies, consumers argue. Wood pulp producers, rag and waste paper dealers counter that the paper market is expecting further cuts in prices of raw materials to be passed along to them, and that a general shakeup of the market's price structure would result.

So long as no abatement is seen in consumer demand, prices of raw materials are firm. Mill buying is said to be extended from the hand-to-mouth basis to approximately sixty days. *Caution* is controlling all movement.

Kraft and Tissues Firmer

Firming of the tissue market during the week brought the last lagging segment of the industry into step for good seasonal business. Holiday-week paper production was reported at 91.0 percent of capacity, compared with 94.8 in 1948's week. Paperboard operated at 89 percent and reported a 51 percent gain in new orders for the week. Kraft moved up slightly to 76.5 percent.

Heavy increases in kraft wrapping orders, reported by merchants to have followed mill notices of quarter-cent price rises, will shortly be reflected at mill levels. A rush to cover at the old prices is understood to have swelled the volume of buying beyond immediate seasonal and Christmas requirements. Parallel purchasing of tissue wrappings which followed the kraft upswing was of sufficient size to bring price rises in No. 2 grade from $105 per ream to $120, and to have returned to the market a normal relation of prices between grades.

Bleached Sulfites Are Firm

First announcements of fourth quarter prices show no change from third quarter levels. Domestic bleached sulfites are firm at $118 per short air-dry ton, f.o.b. mill, full freight allowed.

One grade of domestic bleached sulfate also is maintained at third-quarter price of $118 delivered.

Groundwood is reported to have gained considerable firmness as a result of the tremendous pickup in printing paper production.

Other Fibrous Materials

Waste paper is reported as active, with supplies being readily absorbed and prices firm.

Deferred demand for old bagging has weakened the price structure, and lower prices are reported for some grades. It is expected that consumers will now come into the market.

New cottons are still in limited supply and demand. Paper mill stocks are adequate for present requirements, it is said. Undertone of the old rag market is weak with activity restricted to roofing rags. No. 2 grade advanced 10 to 15 cents per hundred, with relative rises in other grades.

World Newsprint Statistics

World output of newsprint paper was slightly more than 8,440,000 tons in 1948, a 10 percent gain over 1947 and 19 percent over 1946, according to figures compiled by the Newsprint Service Bureau in cooperation with Forest Products Branch, OIT, U. S. Department of Commerce, in its third postwar survey. (Official information concerning Russia and countries in her orbit is lacking.)

World Newsprint Production—Available for Consumption 1948-1946

(Thousand Short Tons)

				% Change 1948 vs.	
Production	*1948*	*1947*	*1946*	*1947*	*1946*
United States	868	826	771	+ 5	+13
Rest of World	7,576	6,827	6,313	+11	+20
World Total	8,444	7,653	7,084	+10	+19
Available for Consumption:					
United States	5,233	4,755	4,234	+10	+24
Rest of World	3,211	2,898	2,850	+11	+13
World Total	8,444	7,653	7,084	+10	+19

Large Production Gains

Production decreases were recorded only by Belgium and Australia, the former at 3,000 tons, the latter at 1,000. In Continental Europe — including estimate for Russia — production showed a gain of approximately 500,000 tons over 1947. (Without Russia, the increase totaled more than 350,000 tons.) Increase in France was 76,000 tons; in Finland, 61,000; in Germany, 41,000; the Netherlands, 42,000; Norway, 36,000; Austria, 26,000; Sweden, 25,000; United Kingdom, 46,000 tons. South American production was reported at nearly 50 percent gain, although quantities are of insignificant proportions.

World Distribution

The five major newsprint exporting countries were Canada, Newfoundland, Finland, Sweden and Norway, representing a combined tonnage of 5,358,000 short tons, or 97 percent of the 1948 world total.

Canada lead off with 4,328,000 tons or 94 percent of its production, followed by Newfoundland's 383,000 tons, Finland's 319,000, Sweden's 195,000 tons, Norway's 29,000 and Austria's 37,000.

UNESCO Proposes

Measures to improve the supply of newsprint were among the final recommendations approved by the Technical Needs Commission of UNESCO, the ANPA bulletin reports. Proposed measures include greater production of newsprint, removal of tariff barriers and allocation of foreign exchange.

Bowater Newsprint Not Affected

Possible closing of Bowater's sulfite mill at the end of the year — reported to be made necessary by wiping out of the U.K. market because of dollar difficulties — will not affect newsprint production, the ANPA bulletin states. Only sulfite pulp for export will be cut back, the association was informed.

Duty-Free Bill Referred

Bill H.R. 5493, to extend for one year to July 1, 1950, the duty-free status of newsprint rolls under 15 inches and down to 9 inches, has been referred to the House Committee on Ways and Means, the ANPA bulletin reports.

Production Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 76.5 percent for the week ended September 3, compared with 76.0 percent for the preceding week, and with 98.0 for the corresponding week of last year.

Comparative ratios of U.S. paper and paperboard production to mill capacity, as reported by AP&PA, are:

	Sept. 3 1949	Aug. 27 1949	Sept. 4 1948	Sept. 6 1947	Sept. 7 1946
Paper	91.0	290.9	94.8	84.7	86.7
Paperboard	89.0	86.0	91.0	79.0	83.0

‡ Revised.

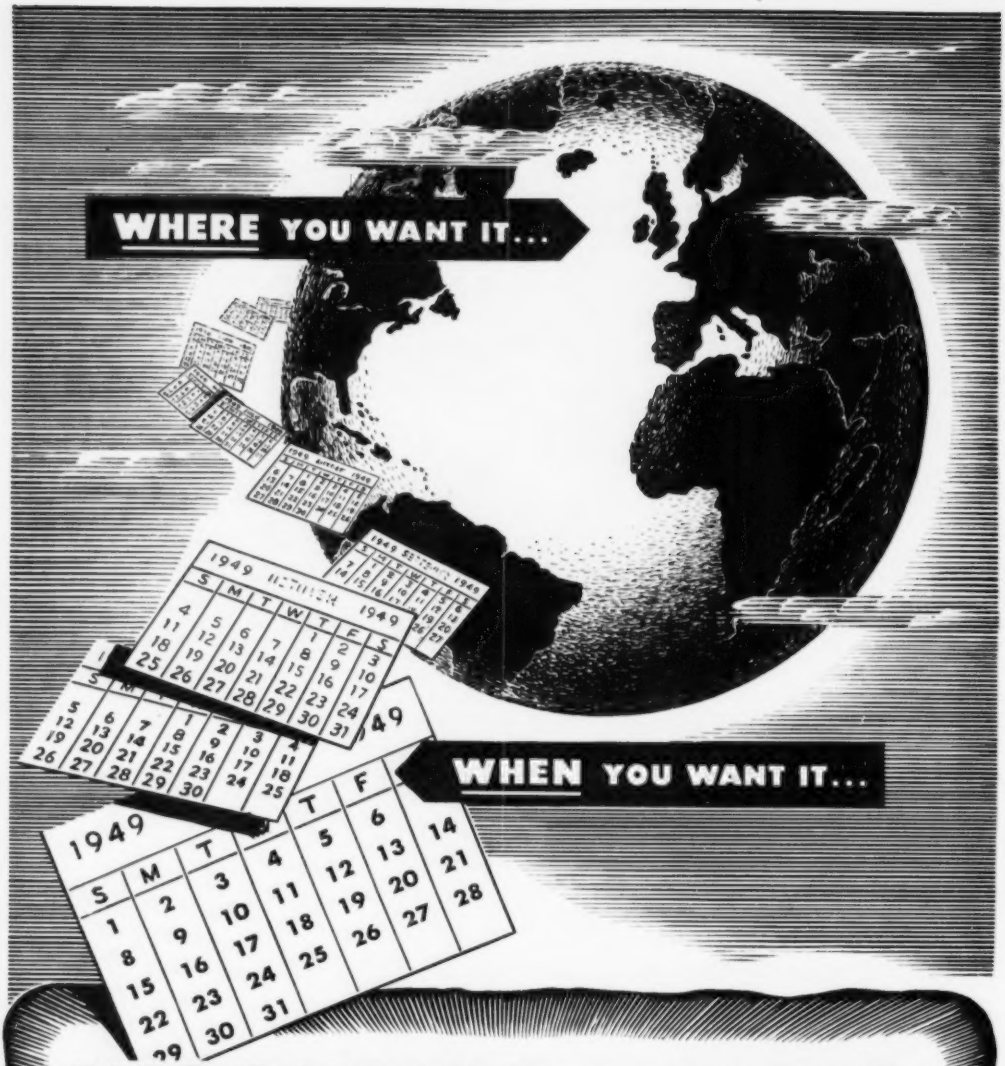
Paperboard Production (Tons)

	Sept. 3 1949	Aug. 27 1949	Sept. 4 1948	Month of August
Production	193,515	184,605	182,685	918,380
New Orders	262,601	173,980	234,396	1,021,499
Unfilled Orders	365,609	294,327	392,753	365,609

Percent of Activity, Current, 89%; Year, 79%.

General Business Indexes

Index of general business activity for the week ended September 3 declined to 140.5 from 142.7 in the preceding week, compared with 147.4 in the corresponding week of 1948.



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Paper TRADE JOURNAL

News of the Week

MILLS

St. Helens Expansion

ST. HELENS, Ore. — Installation of nearly a million dollars worth of new machinery and expansion of the payroll to include 30 more men are highlights of a modernization program of the St. Helens Pulp & Paper Co., Max Oberdorfer, president, reports. Completion of the program is expected within six months, Mr. Oberdorfer said.

Approximately 30 more men will be employed and $200,000 will be spent in rebuilding the No. 1 paper machine which runs specialty paper. Parts and equipment have been ordered and are expected to arrive from Beloit, Wis., November 1.

Workmen on September 6 were installing a $100,000 G-E 5000 kw transformer which will immediately serve the wood mill but will eventually serve the entire plant. Work on the installation started about a month ago, but will require another month to complete. The transformer will reduce the power line from 57,000 volts to 11,000 volts. Another battery of transformers further reduces it to 440 volts to power the machines in the plant.

Other equipment to be installed includes a bag machine, which was purchased late in August. Seven others have been ordered in the past year. A $100,000 digester was also received recently and four more have been ordered from Milwaukee and will arrive in a few months to replace six digesters now in operation.

Saugerties Workers Choose IBPM

SAUGERTIES, N. Y. — Production and maintenance workers at the Saugerties Paper Mills, Inc., late in August voted for the International Brotherhood of Paper Makers, AFL, as their collective bargaining agent with the company, the National Labor Relations Board reports. Of 21 eligibles, 20 voted for the union representation and one against it.

Hosmer Named Millers Falls Treas.

MILLERS FALLS, Mass.—Walker Hosmer has been elected treasurer of the Millers Falls Paper Co.

Consolidated Balloons Advertising

CHICAGO—Launching of "a greatly expanded national advertising and merchandising program" to promote Consolidated enamel papers is reported by Walter L. Mead, vice-president in charge of sales of the Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis. Sales headquarters of the company are at 135 South LaSalle street, Chicago.

Full page four-color ads will appear monthly in *Fortune* and *Business Week*, with black-and-white pages in *Advertising Age, Advertising Agency & Advertising and Selling, Printer's Ink, Printing, Tide, American Pressman, Inland Printer* and *Pacific Printer and Publisher*. The new campaign breaks on October 1. F. Harold Murtfeldt, is advertising and sales promotion manager.

EDWARD J. SULLIVAN

Edward J. Sullivan has been named as eastern sales manager of the Gould Paper Co., with headquarters in New York. . . With completion of a ground wood and sulphite bleach plant by the end of this year, the Gould company will have accomplished an extensive four-year construction and rehabilitation program which will make the mill's properties at Lyons Falls, New York, among the most modern completely integrated units in the groundwood specialty industry for the manufacture of high grade publication and converting papers. . . At a party at the Yale Club, September 8, approximately 30 members of the New York office staff of the Oxford Paper Co., gathered to honor and extend their good wishes to Mr. Sullivan, who until recently was a member of the Oxford sales organization. Mr. Sullivan will assume his new duties prior to October 1. He became associated with Oxford in 1945.

CZ Ups Five Researchers

SAN FRANCISCO—A. B. Layton, vice-president of the Crown Zellerbach Corp., and chairman of the firm's research and development committee, reports that William Moyer, formerly director of research, has been named head of the central research department at Camas, Wash., and that William R. Barber will now act as technical director of the company's new San Leandro, Calif., laboratory. W. F. Holzer and Wm. M. Hearon have been made assistant directors of research, and G. D. King has been made manager of new products development, which maintains headquarters in the San Francisco sales office.

La. IPC Mills In Full Swing

BASTROP, La. — Both of the International Paper Co., paper mills here went into full production shortly after Labor Day. All machines both at the Bastrop mill and the Louisiana mill are now in full output.

During the Labor Day holiday the Bastrop (Old mill) mill was down for repairs, but started up with all machines running the following day. The Louisiana (New mill) mill was "down" over the weekend for repairs but was "up" again on September 8.

Union Bag Veteran Retires

GLENS FALLS, N.Y.—Thomas Taylor, 82, long-time employe of the Union Bag & Paper Corp., has availed himself of company pension benefits and retired from active duties on August 26. Mr. Taylor was employed by Allen Brothers, owners of the Union Bag mills prior to purchase of the property by the present owner. Since 1904 he has been employed by the Union as a millwright and in various other activities around the plant.

Ninesling to N. O. for Union Bag

NEW ORLEANS — The Union Bag & Paper Corp. has opened a Multiwall bag sales office at 504 Delta building, here. Herman R. Ninesling, formerly of the New York office, will represent the company in Louisiana and Arkansas, with headquarters in the new office.

Merrimac's Robinson to Marks

NEW YORK — The Frederick G. Marks Co., Inc., has added Hubert B. Robison to its sales force to handle technical and specialty sales. Mr. Robison was formerly with the Merrimac Paper Co., Inc., Lawrence, Mass., as sales manager in its New York office.

3 important additions

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55 gallon drums
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CALCIUM CHLORIDE
CAUSTIC ASH
MODIFIED SODAS
MURIATIC ACID
SODA BRIQUETTES (*Iron Desulphurizer*)
PHOSFLAKE (*Bottle Washer*)
HI-SIL (*Hydrated Silicate*)
SILENE EF (*Hydrated Calcium Silicate*)
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PITTSBURGH PLATE GLASS COMPANY

Ontario Mills Welcome Assured Pulpwood Supply

By Charles H. L. Reid

TORONTO—It can be taken for granted that pulp and paper companies, with their millions of dollars invested in plant and equipment, are just as eager as anyone else to have their supplies of pulpwood assured in perpetuity. That this is so, is attested by the general agreement among executives on all sides that the forestry resources survey now being conducted by the Ontario government is necessary and should result, ultimately, in the formulation of an equitable distribution of cutting areas between the various interests engaged in turning the forest growth into marketable products. It is also agreed that the reforestation plans to be inaugurated following the survey is a necessity.

Ontario Government Viewpoint

Charles Cox, a member of the Ontario legislature for Fort William, said on September 15, "The high-grading of our northland forests threatens to present Ontario with a timberless Sahara within a half century." Mr. Cox went further and stated that "not a single mill at the lakehead has initiated reforestation and that reforestation should have been started 25 years ago to maintain current production of our lakehead mills in perpetuity."

Ontario has five million acres of submarginal soil suitable for tree planting. Fires destroy timber at the average rate of 625 square miles a year, while reforestation takes place at the rate of six square miles a year.

Premier Leslie Frost was in Northern Ontario that week, where he said he did not want ghost town springing up and thriving industries shrinking and dying because of the misuse of our forest resources. Nor had he any intention of allowing his government to be the tool of anyone in the management of forest resources, he emphasized. Private interests would have to take second place to public interests, he pointed out.

These are familiar statements. They have been heard, with more or less variation, for more than 50 years. Everyone agrees with them. Unfortunately, forest management has been a political football and little has ever been done to protect the public interest in an adequate manner or to provide businesslike and scientific management of our forest wealth. As one newspaper puts it:

"Every time the province becomes aroused by some fresh evidence that our forest resources are being frittered away, the politicians appoint another royal commission or legislative committee to spend months or years in making enquiries and finally to make reports that are pigeonholed with little done to improve conditoins."

Kennedy Report

The Kennedy report is the latest example of government procrastination. George Drew, as leader of the Conservative opposition, in 1941, pledged his party to put Ontario's forest resources under the control of a commission free from political control. In 1943 the pledge was repeated in a more positive form. The Drew administration succeeded the Hepburn party and in 1946 Major-General Howard Kennedy, former woods manager for the E. B. Eddy Co., was appointed to investigate, report on and recommend what should be done about the matter. After an exhaustive enquiry, General Kennedy brought in a report and recommendations that won almost unanimous approval.

Among the general statements contained in the Kennedy report is one to the effect that political expediency had affected our forest policies and that no rational government plan for long-term development of our forest resources existed. The report declared that almost incredible waste occurred from "single-purpose" operations and that unless vigorous remedial measures were soon taken the lumber industry would be classed as a minor industry within 25 years. He urged that reforestation should take place at the rate of 100,000 acres per year.

General Public's Viewpoint

The point that exasperates the general public, as well as many in both the pulp and paper and the lumber industries, is that once again the report of a royal commission has been set aside while a "survey" is being made to determine the extent of the forests.

What the public would like to see is prompt and drastic measures taken to stop the great waste through fires and insect pests; regulations that would insure that all merchantable timber is cut and distributed for processing to the proper mills; some method of clearing up to the best advantage all areas that have been damaged by budworm or other pests. The public is also dissatisfied with the fact that sawlogs and pulpwood continue to be exported instead of being processed in Canada.

As far as the public is concerned, the survey now being made may be a very necessary and profitable undertaking, but that this does not constitute valid reason for Premier Frost marking time until the survey is completed and a master plan put into operation somewhere around 1953.

Battle Continues

In the meantime, the battle at the head of the lakes between the pulp and paper companies and the lumber interests, continues. The leading proponents are Hon. W. Earl Rowe, president of Great Lakes Paper Co., and E. E. Johnson, president of Great Lakes Lumber & Shipping, Ltd.

W. Earl Rowe Comments

In a letter to employes of Great Lakes Paper Co., Fort William, Mr. Rowe states, in part: "Recent press reports indicate a premeditated plan of publicity by the Great Lakes Lumber & Shipping Co., to discredit the administration of the Department of Lands and Forests and the practices of the pulp and paper companies," in connection with cutting operations in that area.

Referring to statements on budworm damage, Mr. Rowe states that, since a careful government survey of the 3,500,000 acres involved in the lakehead region shows 82 percent is unaffected by budworm, the claim that all timber in the budworm infested area must be cut immediately or lost, is a reckless proposal.

"Records of the Department of Lands and Forests show that after being allowed to cut in the most heavily infested district, west of Lake Nipigon, the Great Lakes Lumber & Shipping Co., cut 76 million feet of lumber and used only about one tenth of one percent, which is first to be infested by the budworm and constitutes the major portion of the 18 percent of the whole infested area," Mr. Rowe continues.

"In contrast," the letter continues, "Great Lakes Paper Co., closed many camps in unaffected areas in order to carry out a sincere salvage program on infested areas such as the Black Sturgeon limit, and as the department records will show, like other pulp and paper companies, cut all the merchantable balsam encountered, ranging in different districts from 15 percent to 35 percent." Mr. Rowe's letter adds: "Such practices are easily understood in view of the fact that one cord of such material manufactures about $100 worth of paper, and if sawn into lumber, produces about $25 worth."

Referring to charges that neither the department nor the paper company has co-operated with the lumber companies in providing sufficient low-cost logs for its sawmill, Mr. Rowe states: "In 1941 the Hepburn government urgently requested the Great Lakes Paper Co., to supply logs to the lumber company, as greater lumber supply was considered by them as a war emergency.

"To encourage and assist the lumber company in such production, the paper company was required to sign an agreement to supply a large quantity of sawlogs to the lumber company at $1.65 a cord less than the Great Lakes Paper Co's., cost of production. Since that time, 1,833,534 logs have been delivered to the lumber company for substantially less than net production costs of the Great Lakes Paper Co."

Great Lakes Paper Co., although under no obligation to supply logs to the sawmill at less than cost, nevertheless offered to supply 275,000 logs now on hand at less than cost of production, Mr. Rowe continues, and delivery was refused. "The Great Lakes Lumber & Shipping Co. has also refused to accept an offer of the paper company to supply at cost any sawlogs that may be encountered in 1949-50 operations."

certify: *to make known or establish a fact*

A 1

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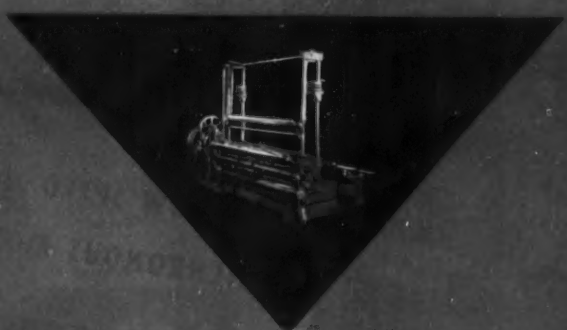

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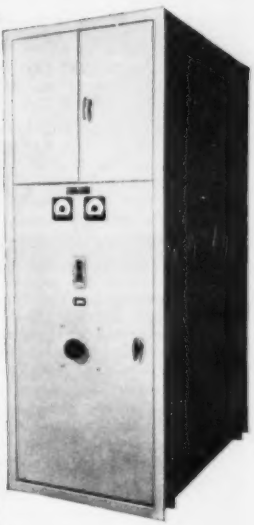
G-E synchronous control provides the accurate adjustments that enable you to improve power factor. Here's where details count—where the slightest variation of a pointer on a meter means money saved—or lost. And General Electric has not overlooked these elements. Consider the meters for a moment. Here, G-E has devised a long scale with the pointer in the same plane as the figures so there can be no possibility of misreading the instrument. Anti-glare glass is used so no distortion is possible.



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☐ GEA-529D, Low-speed Synchronous Motors

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GENERAL ELECTRIC

E. E. Johnson Comments

Mr. Johnson, in his reply to the letter, refers to the agreement of August 26, 1941, between the Great Lakes Paper Co., and the Pigeon Timber Co., and Great Lakes Lumber Co., predecessor companies to the Great Lakes Lumber & Shipping, Ltd., and states that the most important terms are:

Great Lakes Paper undertook to supply one-third of the annual log requirements, approximately 1,000,000 logs; that both companies agreed on the sawmill of the Great Lakes Lumber Co., at Fort William as the one to fulfill the agreement; that the undertaking was to extend for the eight cutting seasons commencing 1941-42.

Mr. Johnson claims that the agreement was made on the basis of the annual production capacity of the sawmill as one million logs, and that the paper company is short on deliveries approximately 760,000 logs, eight-inch top diameter. On the basis of the actual production capacity on two-shift operation of 1,650,000 logs annually, the company is short on delivery of approximately 1,500,000 logs.

Mr. Johnson states further that his company paid for logs actually delivered to the end of 1946-47 season, reserving the right in damages for failure on the part of the paper company to deliver the quantity stipulated in the agreement.

An interim and conditional settlement of demands for payment by the Great Lakes Lumber Co., for logs delivered under date of May 11, 1949, was arrived at and accepted in writing by Mr. Rowe and payment of $200,000 was made on two conditions, according to Mr. Johnson. These two conditions were: (1) That the settlement did not cancel the lumber company's claims for a shortage in quantity of logs produced; and (2) that the Great Lakes Paper Co., agree to enter into a negotiation in good faith and with reasonable despatch with the lumber company for an arrangement to permit the lumber company to cut sawlogs for itself and pulpwood for the paper company on a portion of the paper company limits.

"We think that the government should recognize its obligations to enforce the paper company to comply with its agreement to supply the lumber company with a minimum of 333,000 logs a year, in view of the lumber company having assumed the obligation of the paper company with respect to the construction and operation of a sawmill per the concession agreement between the government and the paper company," Mr. Johnson states.

"The 200,000 sawlogs referred to by Mr. Rowe were refused because they were grossly inferior in quality . . . Furthermore, the price asked for such unsuitable material exceeded their fair market value by at least five dollars per cord," Mr. Johnson states.

Paper Industry Electrical Conference

SCHENECTADY, N. Y.—Many leading executives from paper mills east of the Mississippi River attended the Paper Industry Electrical Conference at Adirondack Inn, Scanadaga Park, near here on September 12-13.

Sponsored by the General Electric Co., the meetings were given over to discussion of the problems common to the paper industry and the electrical equipment manufacturing industry. Among those attending the conference were:

G. R. Wallace, president and treasurer, Fitchburg Paper Co.; H. J. Bunke, asst. mill manager, Oxford Paper Co.; W. Brown, vice-president, Brown Paper Co.; K. E. Terry, division engineer, S. D. Warren Co.; K. P. Osborn, executive vice-president, St. Croix Paper Co.; G. Williamson, president, Strathmore Paper Co.; E. C. Reid, vice-president, American Writing Paper Corp.; J. McWilliams, plant engineer, Byron Weston Co.

C. J. Sibler, chief engineer, West Virginia Pulp & Paper Co.; F. A. Coe, manager, West Virginia Pulp & Paper Co.; G. W. E. Nicholson, vice-president, Union Bag & Paper Co.; T. H. Murphy, assistant to president, Mead Corp.; B. M. Cancell, vice-president, St. Regis Paper Co.; H. R. Emery, steam engineer, St. Regis Paper Co.; A. A. Whitlock, electrical engineer, St. Regis Paper Co.; M. R. Dixon, power engineer, St. Regis Paper Co.; J. Warner, chief engineer, Robert Gair Co.; L. Beeman, president, Finch Pruyn & Co., Inc.

W. D. Harrison, assistant to executive vice-president, Riegal Paper Co.; A. P. Schnyder, paper mill engineer, Ebasco Services, Inc.; L. W. Strattner, vice-president, West Virginia Pulp & Paper Co.; B. M. Turner, engineer, International Paper Co.; J. E. Keleher, chief engineer, Gould Paper Co.; J. W. Roberts, manager of methods, Johns-Manville; H. Herbert, electrical engineer, Johns-Manville; J. B. Eakin, purchasing agent, St. Regis Paper Co.; C. J. Faulkner, purchasing agent, St. Marys Kraft.

H. McCane, plant engineer, Container Corp. of America; J. Grauel, chief engineer, W. C. Hamilton & Sons; H. M. Keickhefer, president, Keickhefer Container Co.; C. H. Carpenter, vice-president, Keickhefer Container Co.; J. H. Massard, electrical engineer, Scott Paper Co.; G. S. Brickett, plant engineer, Congoleum Nairn Co.; G. A. Reinhart, Jr., Armstrong Cork Co.; H. F. Winchell, chief engineer, Scott Paper Co.; L. C. Stevens, director of purchasing, Scott Paper Co.

W. M. Lowe, chief electrical engineer, International Paper Co.; A. O. Mortenson, chief operating engineer, St. Regis Paper Co.; J. M. Hilton, superintendent, Brown Paper Mills; R. Wilbur, manager of manufacturing, Southern Paperboard Corp.; R. T. Inman, chief construction engineer, Union Bag & Paper Co.; R. B. Robertson, president, Champion Paper & Fibre Co.; B. L. Kassing, manager of manufacturing, Ecusta Paper Co.; O. Winningham, superintendent, National Container; T. J. Judge, chief steam engineer, International Paper Co.

H. Adams, electrical engineer, Champion Paper & Fibre Co.; G. Pringle, assistant chief engineer, Mead Corp.; J. T. Rice, division engineer, Champion Paper & Fibre Co.; G. L. Hawkins, Hammermill Paper Co.; A. S. Goodrick, chief engineer, Hammermill Paper Co.; B. M. Thomas, vice-president, Ohio Boxboard Co.; C. E. Carpenter, vice-president, Ohio Boxboard Co.; G. H. Suhs, chief engineer, Sorg Paper Co.; W. E. Sooy, vice-president, Gardner Richardson Co.; E. F. Bearce, vice-president, Chillicothe Paper Co.; H. L. Custer, general manager, Fairfield Paper & Carton; J. E. Becker, general manager, Chase Bag Co.

M. D. Bardeen, president, Lee Paper Co.; R. A. Hayward, president, Kalamazoo Vegetable Parchment; S. L. Foster, chief engineer, Kalamazoo Vegetable Parchment; M. S. Fogerty, chief engineer, Sutherland Paper Co.; G. F. Durand, vice-president, Port Huron Sulphite & Paper Co.; G. B. Bonfield, vice-president, American Boxboard Co.; B. W. Martin, manager of manufacturing, American Boxboard Co.

J. H. Ford, chief engineer, Container Corp. of America; C. H. Reese, vice-president, Nekoosa Edwards Paper Co.; M. V. Molsberry, engineer, Consolidated Water Power & Paper Co.; G. F. Hrubecky, chief engineer, Marathon Corp.

Realign Bagpak Sales Set-Up

NEW YORK—The Bagpak division of the International Paper Co., has named Hugh O'Neill as sales representative in northwestern Ohio, northern Indiana and Michigan, except the Michigan peninsula, with offices at 2408 Terminal Tower, Cleveland. W. W Hendrickson, who previously served this territory, will continue as sales representative, working out of the same office, in those sections of Ohio and Indiana not covered by Mr. O'Neill, as well as in Kentucky and in Buffalo and Niagara Falls, N. Y. H. D. Wellington will continue to cover the Michigan peninsula as part of his territory. Mr. Wellington's office is at 400 West Madison street, Chicago.

LETTERS

Gentlemen:

We have just received our copy of "Lockwood's Directory of the Paper and Allied Trades," which we recently ordered.

We write now merely to compliment you on the excellent job you have done in preparing this book. It is really good.

We wish we could get something equally good for the baking trade.

M. K. JESSUP
President
International Service, Inc.
Washington, D. C.

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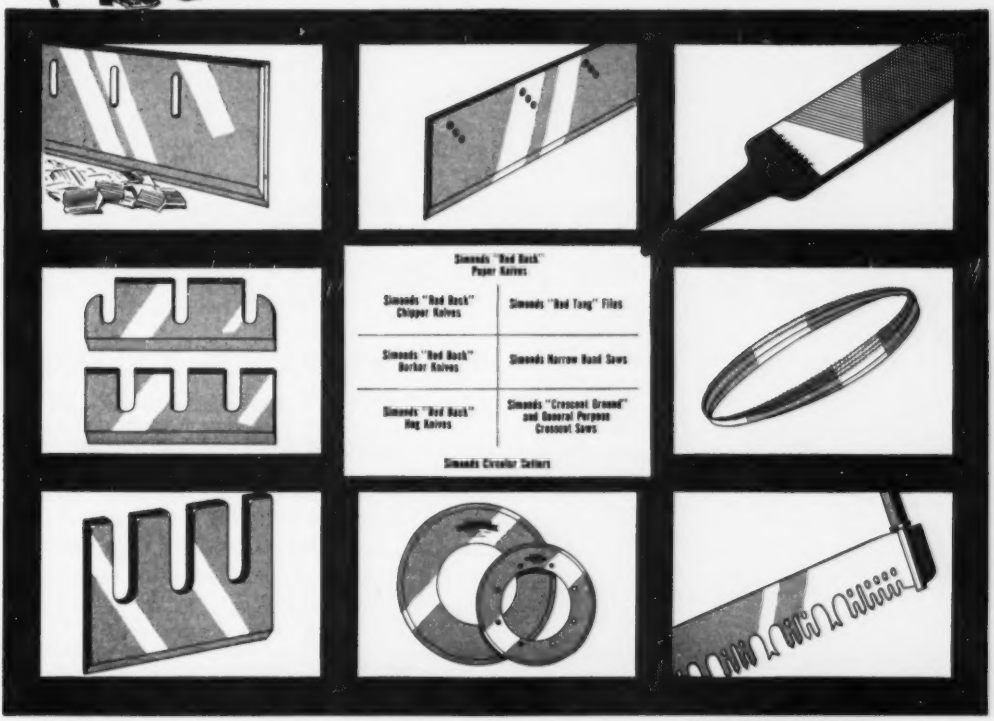
So rest assured that your cutting-tool dollar is *invested* — not spent — when you order Simonds from your dealer.


Simonds "Red Back" Paper Knives
Simonds "Red Back" Chipper Knives
Simonds "Red Tang" Files
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FORESTRY

Tree Planting Value Shown

CARTHAGE, Miss.—"The boll weevils haven't hurt our timber, and so if you have practiced good forestry management and selective cutting, your forestry income will balance your short cotton crop." So said R. H. Hobson, Leake County Extension agent, as more than 400 farmers started their annual Leake County Forestry Field Day and Tour here on August 17.

Sponsored by all the agricultural agencies of Leake County and assisted by Extension and other Mississippi State College forestry specialists, the annual roundup acquainted farmers with the latest forestry developments.

The Central Mississippi Fire Control Ass'n., is an organization of landowners who foot the bill for their own fire protection.

In this county which ranks among the top 10 in the state in forest products, out of the 160,000 acres of timber owned by the International Paper Co., only 450 acres were lost this year as the result of fire.

A. K. Dexter, representative of the paper company, announced an even better and more economical job is expected to be accomplished in the future, what with plans made to purchase an airplane to be used in spotting forest fires in this section.

J. S. Therrell, extension service forester of Mississippi State College, in opening the day's program introduced those who were in charge of the various demonstrations.

The entire teaching staff of the Forestry Division of the School of Agriculture, Mississippi State, headed by Monty Payne, was on hand to assist with the event. Others included Bob Clapp, E. G. Roberts, Clifton Marlin, John Starr and Howard Carpenter, ranger for the Northeast Mississippi Experimental Forest.

A marking and selective cutting demonstration was conducted by Ralph Roberts, district forester of the Mississippi Forest and Park Service. Estimating timber was another phase covered by E. G. Roberts of State College.

Other demonstrations and discussions included: Planting and reforestation, M. O. Stark, International Paper Co.; fire control equipment and use, A. K. Dexter; post treating, E. L. McIlheny, Lake; use of one-man saw, J. H. Touchstone, Snavik Saw Co.; portable saw mill and custom sawing, Dick Alle, Buddy Deweese, Deweese Lumber Co.

Following the three-hour demonstrations and discussions, the group visited a forestry area to observe fire control results and the results of clear cutting as compared to selective cutting.

Alabama Leading Tree Farms States

MONTGOMERY, Ala.—Already leading the 48 states with its 2,500,000 acres as "Tree Farms", Alabama is making even more extensive plans for the 1949-50 planting season. Bert E. Thomas, director of conservation, in a statement in the *Alabama Conservation*, said he believes there are 4,000,000 acres more that could qualify under the "Tree Farm" phase of the More Trees for Alabama project.

At Autaugaville State Forestry Nursery, where Alabamians acquire the young trees, the production of seedlings this fall is expected to be about the 19,811,927 figure of last year, growing conditions permitting. The limitations of the nursery site prohibit any appreciable increase in that number. The largest private planter last season was the Gulf States Paper Corp. with 866,000 trees.

Lee county has a goal set for the planting of 500,000 trees during the 1949-50 season and plans on a million for 1950-51. The 250,000 trees planted last season was made possible in some degree by the use of a tree planting machine which residents rented.

Some idea of the possibilities of the "More Trees' program can be obtained from the statement of Euel A. Screws, Lee county "More Trees" chairman, when he said the next two years' program were only drops in the bucket—"that Lee county has 45,000 acres of waste land which would require a minimum of 45,000,000 trees to reforest'.

Forest Protection Survey

WASHINGTON—For the first time in our history less than 100 million acres of forest land are without organized forest fire protection, a survey released by the American Forest Products Industries, discloses.

The survey, based on latest U. S. Forest Service figures for the Nation, is an eight-page leaflet showing comparative effectiveness of forest protection in all timbered states.

The growth of the Keep Green program has kept pace with the increase of acreage under protection and the reduction of area burned on protected land.

In 1944 three states were in the Keep Green program as compared with 24 at the end of 1948. In 1944 there were 511,015,000 acres under organized protection and 554,683,000 for 1948, a gain of 43,668,000 acres.

Acreage burned on protected land was 2,673,017 for 1944 compared with 2,273,815 for 1948, a decrease of 399,202 acres.

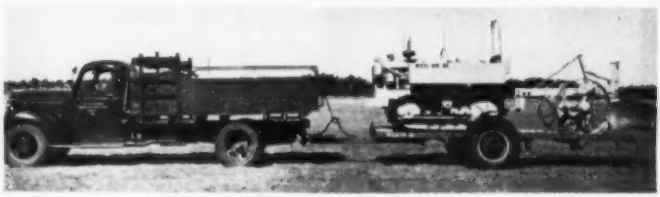
"While most of this improvement can be credited to the increased efficiency of the forest fire fighting agencies—both industrial and public—the Keep America Green movement has played a major role in limiting the number of man-caused fires," declared J. C. McClellan, AFPI's Chief Forester.

The Keep America Green program is now active in 25 states, and is sponsored nationally by AFPI.

"By pointing out what woods fires mean in terms of wages, raw material, profits, taxes and recreational facilities, local Keep Green committees are putting an effective pocketbook punch into the forest fire prevention campaign," Mr. McClellan stated.

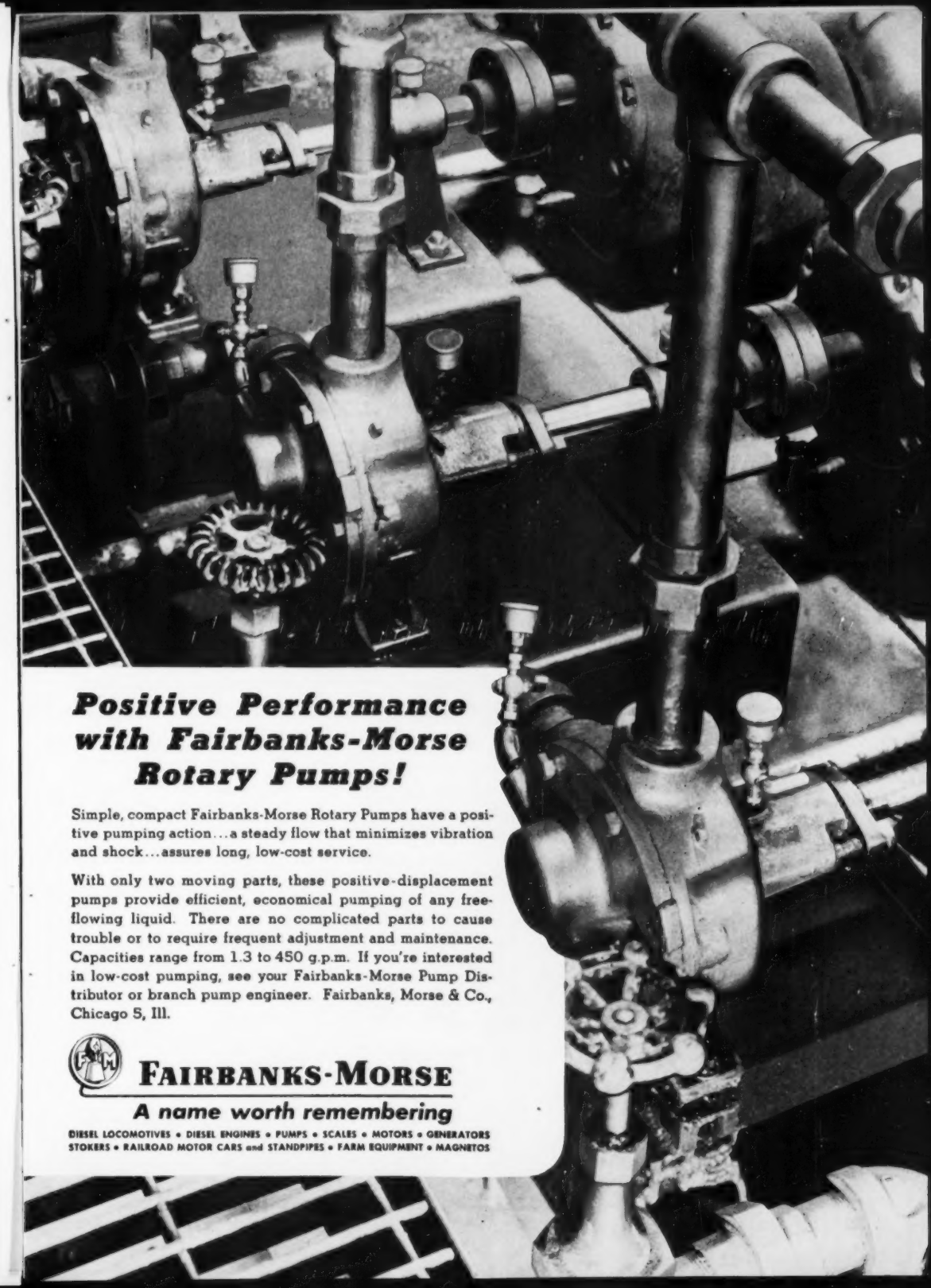
Forest Management Movie Fellowship

WASHINGTON, D.C.—Establishment of an educational fellowship for research into the techniques and methods of making motion films for the purpose of gaining support and understanding of forest management practices is reported by the National Wildlife Federation. Any graduate of an accredited University who has majored in Forestry, Agriculture or related subjects is eligible to apply. The work will be initiated at the Massachusetts Cooperative wildlife Research Unit at Amherst, Mass., and will carry a stipend on a two-year fellowship basis of $1,200 a year in addition to all required equipment and expense for such traveling as may be necessary. Interested candidates should apply to Wm. G. Sheldon, Leader, Massachusetts Cooperative Wildlife Research Unit, French Hall, University of Massachusetts, Amherst, Mass.



WISCONSIN FIRE LINE PLOW

A major development of the State of Wisconsin in combating forest fires is this one and one-half ton truck which pulls a five-ton tilting bed trailer loaded with tanker tractor and Wagler plow unit. . . It is considered by many forestry authorities to be the most outstanding in fire equipment. . . Neil LeMay, chief ranger of the Forest Protection headquarters of Wisconsin, states that one unit replaces 50 to 100 men, depending on terrain and plow conditions. . . The plow develops a seven to eight-foot furrow, leaving mineral oil exposed which serves as a fire break and fire line. Fires burning under ordinary conditions when encompassed with a fire break made with this plow generally are brought under control unless, of course, a crown fire develops, Mr. LeMay states.



Positive Performance with Fairbanks-Morse Rotary Pumps!

Simple, compact Fairbanks-Morse Rotary Pumps have a positive pumping action...a steady flow that minimizes vibration and shock...assures long, low-cost service.

With only two moving parts, these positive-displacement pumps provide efficient, economical pumping of any free-flowing liquid. There are no complicated parts to cause trouble or to require frequent adjustment and maintenance. Capacities range from 1.3 to 450 g.p.m. If you're interested in low-cost pumping, see your Fairbanks-Morse Pump Distributor or branch pump engineer. Fairbanks, Morse & Co., Chicago 5, Ill.

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STOKERS • RAILROAD MOTOR CARS and STANDPIPES • FARM EQUIPMENT • MAGNETOS

Forest Prod. Research Society Northeast Section Meeting

NEW YORK—The fall meeting of the Northeast Section of the Forest Products Research Society, to be held October 31-November 1 at Hotel Statler will be open to all interested in wood and paper developments, being particularly intended for residents of New Jersey, New York, Pennsylvania, the New England States and eastern Canada.

The opening session will be primarily concerned with paper in its relation to wood combination products and shipping containers.

George N. Lamb, secretary of the Mahogany Ass'n., will keynote the first day's afternoon session devoted to imported woods with a luncheon address at which time he will exhibit a film on "Mahogany—Wood of the Ages". Mr. Lamb was technical advisor for the film during its preparation in Central America. Following exhibition of the film various phases of this increasingly important subject of imported woods will be discussed.

The November 1 meetings have been directed towards fundamental considerations of moisture induced factors on the behavior of wood as well as problems encountered in fabricating wood products.

Authorities in the fundamental studies of wood will review the role of moisture during the morning session.

The concluding afternoon session will consist of group meetings dealing with (1) Dry Kilns and Seasoning, (2) Gluing, (3) Material Handling, (4) Wood Finishes and (5) Machining.

Detailed programs may be had by writing to Earl Stivers, Package Research Laboratory, Rockaway, N.J.

Alabama Forestry Demonstration

WAGARVILLE, Ala.—"In my 20 odd years of forestry work I have never witnessed a demonstration of good forestry practices attended by so many people. I have never seen such an interest displayed in forestry as was evidenced by this group."

This statement was made by J. A. Gibbs, regional forester of the Soil Conservation Service from Spartanburg, S. C., at the recent forestry demonstration in Washington County near here.

Nearly 250 persons witnessed this demonstration. It was held on the Forest Bumpers land near Wagarville. Sponsored by public agencies and private industry, demonstrations in selective cutting for poles, saw logs and pulpwood were given. Also demonstrated was the acid stimulation for naval stores production and poisoning of hardwoods.

W. J. Bridges, forester for Hollingsworth-Whitney Paper Co., explained the program of pulp and paper companies in utilizing trees that formerly had no value for any purpose. Earl Porter, forester for International Paper Co., informed the group of the present status of the paper industry.

"A substation of the U.S. Forest Service has been established at Brewton to find out how much money a person can expect to make from his timber land if managed according to modern practices," stated T. C. Croker, currently in charge of the U.S. Forest Service experiment station at Brewton.

The demonstration was under the general direction of J. E. Jernigan, assistant county agent in Washington County, and Denton H. Bloomer, project forester of the State Division of Forestry.

Biloxi Planting 1,000,000 Trees

BILOXI, Miss. — Plans for planting 1,000,000 Southern pine trees on about 1,000 acres of land in the Biloxi district of the national forest land in Mississippi have been disclosed by C. M. Everson, district forest ranger.

Mr. Everson said the planting will begin late in November or early in December.

Plans also have been announced for a new forestry school in the district 10 miles west of Perkinston. The University of Mississippi is conducting the school which is on a 22,410 acre plot. It will cater to all of the universities and colleges in the nation and will accommodate about 60 students.

BUTLER TO AFPI

Edwin R. Butler has joined American Forest Products Industries, Inc., Washington, D. C., as assistant managing director. Before coming to AFPI he was public relations director for the Southern Hardwood Producers, Inc., Memphis, Tenn. . . The three main programs sponsored nationally by AFPI are: Keep America Green, the American Tree Farm System, and the More Trees for America project.

District Eleven Forest Practice Board

GLENS FALLS, N. Y.—Gerald Pesez of South Glens Falls was reelected chairman of the District 11 Forest Practice Board at a meeting Aug. 17 at the Lake George office of the New York State Conservation Department. The district comprises Saratoga, Warren and Washington Counties.

S. M. Farmer, district forester of Lake George, was reelected secretary and Lester Fowler of Hadley was reappointed State Forest Practice Board member for a three-year term.

Morgan Smith, forester for the State Conservative Department, presented accomplishments under the Forest Practice Act for the last four-month period. He reported 40 requests for service, 17 persons signed as cooperators, involving 2,916 acres; 148,000 board feet and 642 cords harvested in accordance with Forest Practice Act standards.

During the discussion which followed, a Fall meeting was planned to look over cooperators' woodlots. Other members present were Clarence Carpenter and David Brooks of Chestertown, Carlton Sommer of Mechanicville and Luke Sheldon of Fort Ann. Attending from the Conservation Department were Noble Harpp and Philip Barber of the Blister Rust Control division; Kermit Remele, junior forester, and G. E. Stewart, district ranger.

South Seeks Trees

ATLANTA, Ga. — The Southern regional office of the U.S. Forest Service reports that the South's demand for trees for reforestation is getting out of hand. Regional Forester J. Herbert Stone said that although Federal nurseries have increased their production of seedlings by more than 12 times what it was four years ago, demand continues to exceed supply.

South Carolina led the Southern states in distribution of trees during the last planting season, with 29,189,000 seedlings distributed. Georgia was second with 27,362,000, Alabama third with 19,569,000, and Florida fourth with 19,383,000.

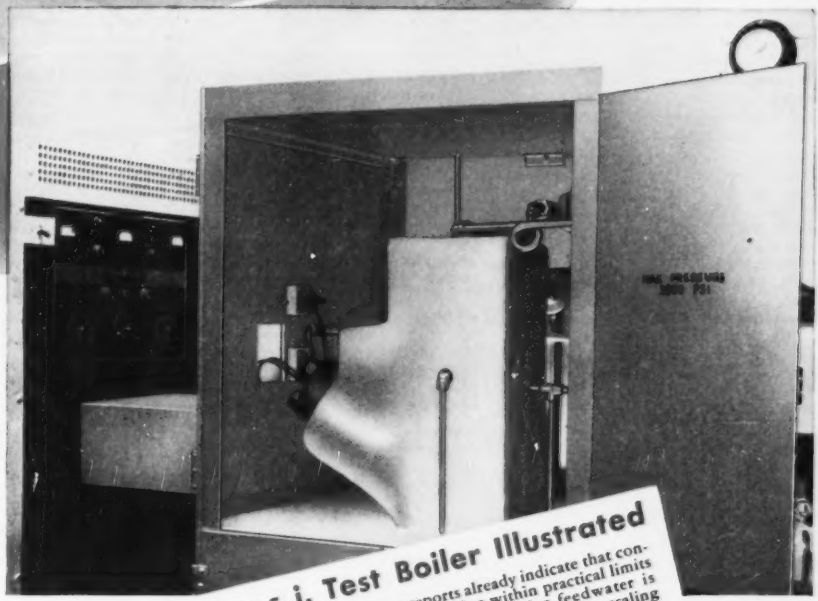
Adirondack Logging Co.

TUPPER LAKE, N. Y.—The newly organized Adirondack Logging Co., here has been incorporated with John Maddox as president and Fred Bedore and Raymond Fuller as vice-presidents. The company has purchased the stumpage on a 60 acre tract in the Mount Arab area owned by Stanley Saxton of Saratoga. Pulp will be logged off next spring.

Monahan to Simpson Logging Co.

SHELTON, Wash.—Leo C. Monahan has been appointed manager of sales for the wood fiber division of the Simpson Logging Co. He was formerly with the Insulite division of the Minnesota & Ontario Paper Co., Minneapolis.

Preparing for Your FUTURE



Data on 3,000 p.s.i. Test Boiler Illustrated

- Maximum operating pressure 3,000 p.s.i.
- Electronically heated by 15 KW, 540 KC induction coil, adjustable to produce varying heat transfer rates.
- Estimated maximum heat transfer rate per square foot of heating surface: 250,000 B.t.u. per hour. (Heat transfer rates in excess of 200,000 B.t.u. per square foot per hour are [illegible] at 3,000 p.s.i.)
- Present reports already indicate that continuous operation within practical limits is possible when boiler feedwater is Nalco treated to prevent foaming, scaling and corrosion.
- Automatic controls, essentially the same as those on modern steam generators.
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YOUR future water treatment, whether your boilers operate at 25 or 2,500 p.s.i., is being prepared for in the Nalco Laboratories today. Tremendously accelerated scaling and corrosion tests, possible with this 3,000 p.s.i. test boiler, are only a small part of the continuous Nalco program of pioneering in all phases of water treatment chemistry.

Where bold experimentation is indicated, Nalco initiates it—and *proves results* in a practical manner before offering new methods and materials to industry. This policy works for you in several ways: you can be sure that the Nalco System used in your plant is not just a laboratory experiment . . . Your water treatment program will be based upon securing results—not upon chemical sales as such . . . And you can be certain that all new developments and improvements coming from the Nalco Laboratories will be used to the best advantage wherever they may apply in your plant.

Call your Nalco Representative, today, or write direct for more information.

NATIONAL ALUMINATE CORPORATION
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THE *Nalco*

[illegible]

Report on Sayward Forest Cutting

VANCOUVER, B.C. — Attention is directed to the overcutting of timber in the coastal forests of British Columbia in a revised forestry department inventory covering the timber resources of the Sayward Forest on Vancouver Island.

The government report states that there were 6,869,450,000 board feet of timber left in the forest, of which 36.9 percent had already been alienated by way of crown grants. "In a period of 19 years," the report notes, "the forest capital of this highly productive region has been reduced by 52 percent."

The report continues: "At the conclusion of the 1928 survey it was estimated that the allowable cut from the Sayward Forest could have been 147 million feet per year on a continuous production basis. The excessive cut over the intervening years has seriously reduced the allowable cut so that, as of 1948, the allowable cut can not be more than 106 million board feet. Present consumption, therefore, exceeds productive capacity by about 20 percent. This situation is common to all of the forests in the lower coastal region, but it is particularly noticeable when new inventory figures are available."

Weyerhaeuser Forestry Fellowships

CORVALLIS, Ore. — A $1,000-a-year graduate research fellowship in forest management at Oregon State college given by J. P. Weyerhaeuser, Jr., president of the Weyerhaeuser Timber Co., was announced August 27.

The first recipient, who will start graduate work at the beginning of the academic year this month, will be selected by Paul M. Dunn, dean of the school of forestry. A similar fellowship has been set up at the University of Washington in Seattle.

"It is expected," Mr. Weyerhaeuser said, "that the forest industry's increasing need for scientific knowledge in management of forests, and the need of deserving students for help of this kind will both be served by these fellowships."

Enlarge Flambeau River Forest

LADYSMITH, Wis.—The Wisconsin Conservation Commission, at a recent meeting, approved acquisition of an additional 519.25 acres of land for the Flambeau River State forest.

In another action, the commission approved the assignment of $275,000 from the Conservation department's 1949-50 budget to purchase additional virgin timber lands in Flambeau forest from the State Land Commission.

The forest, which has an area of 67,191 acres, has supplied 15,200 cords of wood products for commercial purposes in the past five years. Of this amount, 14,591.57 cords was for pulpwood. This was more than any of the three other major state forests in Wisconsin produced.

CONVERTERS . . . .

Portco to Vancouver, Wash.

VANCOUVER, Wash. — The Portco Corp., paper products division, has been opened here in its new plant which was formerly a maintenance and material building for Hudson House. The plant is on ground once occupied by dormitories of the Kaiser shipyard on the east side of the shipyard, south of the S.P.& S. railroad.

Ralph G. Meyer, vice-president and general manager of the firm, said the need for a larger plant was the principal reason for the move from Camas, where the plant was located since 1928.

Mr. Meyer said the firm was originally set up by an employe of Crown-Willamette in Camas to manufacture shopping bag handles for that company. Gradually it added other paper twine products, coming to specialize in fleece twine.

New products, not entirely of paper, will be made at the new location. Most recent addition is a two-by-five-inch sheet of aluminum foil to be hung in orchards and gardens to frighten birds by its reflections, motions, and crackling sound when fanned by a breeze.

A new research department has been set up under the direction of Victor Rick, research engineer. The department will also test materials entering and leaving the plant.

Howard Wall is president of the plant, which employs 54 persons. The plant workers are the same as those employed at Camas, Mr. Meyer said. Other members of the staff are Edward H. Look, sales manager, and Ray Kirwan, plant superintendent.

Packaging Competition Judges

CHICAGO — Judges for the 1949 National Protective Packaging Competition to be conducted in connection with the Fourth Annual Industrial Packaging and Materials Handling Exposition, at Convention Hall, Detroit, October 4-6, have been named by the Society of Industrial Packaging and Materials Handling Engineers as follows:

Corrugated or Solid Fibre Boxes— J. Lebl, retired chief packaging engineer, Sears, Roebuck & Co., Chicago, chairman; E. F. Dival, director of packaging, Corn Products Refining Co., Argo, Ill.; L. E. Davis, supervisor of methods and results, Western Electric Co., Hawthorne Station, Chicago; F. H. Horton, assistant general traffic manager, Aluminum Co. of America, Pittsburgh; and Paul J. Barcus, chief packaging engineer, Owens-Illinois Co., Toledo, Ohio.

General — James P. Corcoran, chief packaging engineer, Alden's, Inc., Chicago, chairman; R. E. Farney, manager, packaging engineering department, Spiegel, Inc., Chicago; F. F. Holt, packaging engineer, GMC truck and coach division, General Motors Corp., East Pontiac, Mich.; J. W. Kraus, packaging engineer, Thompson Products, Inc., Cleveland; and W. E. Braithwaite, commodity standards division, National Bureau of Standards, Washington, D.C.

Export—Frank W. Green, packaging consultant, Springfield, Mass., chairman; John Mount, manager, marine service department, North America Companies, New York; Charles J. Zusi, vice-president, Container Laboratories, Inc., Chicago; Col. C. A. Waldmann, manager, export boxing and material handling department, Deere & Co., Moline, Ill.; and H. J. Benzie, production manager, General Electric Co., Bridgeport, Conn.

Complete information as to submitting entries is available from the headquarters office, SIPMHE, 20 West Jackson boulevard, Chicago.

Old Colony Incorporation

FRAMINGHAM, Mass.—The Old Colony Container Co., Inc., has been incorporated for the business of converting paper products of all kinds, etc., with capital stock of 500 npv common shares. Maurice J. Parnen is president and treasurer, and Julian T. Hargraves is clerk.

NEW HOME OF DIXIE CONTAINER CORP.

Dixie Container Corp., which has operated its corrugated shipping container plant in Richmond, Va., since 1938, has recently completed and occupied this new plant and offices at 2000 Jefferson Davis Highway, in that city . . . All of the manufacturing equipment is of the latest design, either new or completely rebuilt; and is disposed within the 65,000 square foot manufacturing area so to provide for the maximum in efficient production of quality corrugated board . . . The corporation acted as its own general contractor in the construction of the building, which was designed by Charles Leavitt and Associates, of Norfolk.

That "old friend" was carbon. These two troublemakers cause a lot of worry in welded stainless steel pulp and paper mill equipment. But they won't be a headache in Armco ELC (Extra-Low Carbon) Stainless Steels because the carbon content has been reduced to only .03% maximum.

With so little carbon present there is no danger of corrosion from the effects of welding. This is true of all Extra-Low Carbon grades of Armco Stainless Steel —Types 304 ELC, 316 ELC and 317 ELC. The extra-low carbon content of these grades prevents intergranular corrosion by eliminating harmful carbide precipitation during welding.

COSTS LESS, TOO

Lower cost is another important advantage with Armco ELC Stainless. These special grades are ***more economical*** than corresponding types stabilized by the addition of columbium or titanium. And welded equipment of ELC does not always require annealing. This saves money, especially in large assemblies.

FOR THE TOUGH JOBS

If you have corrosion problems in welded pulp and paper mill equipment at service temperatures below 800° F.—that's the place for Armco ELC. It is now cutting costs and prolonging service life in acid bleachers, blow-pit bottoms, acid digestors, steam and sulfur recovery systems, blow-pit target plates, inlet manifolds, screen plates and size cookers.

Let us tell you the complete story of how these special corrosion-resistant metals save money and increase equipment life. Just write us, or ask your equipment supplier to inquire. Armco Steel Corporation, 3779 Curtis Street, Middletown, Ohio. Export: The Armco International Corporation.

ARMCO STEEL CORPORATION ARMCO

C. Z. AND WESTERN WAXED AT RECENT 'FRISCO PACKAGING EXPOSITION

The Western Waxed Paper Co., and the Zellerbach Paper Co., San Francisco, took full advantage of the recent Packaging Exposition in that city to display their wares . . . Approximately 6000 people with business interests in packaging materials and methods attended. . . . Zellerbach Paper Co. featured two Auto-Pak machines, one for rapid box-forming and another for packing of frozen foods into cartons. Their booth also displayed the packaging materials available through ZPCo., division . . . Western Waxed Paper Co., had two booths. One featured Mullinix wraps, showing fresh meats, butter, and oleomargarine now being merchandised in this container. . . . The other booth displayed other food packaging materials produced by Western Waxed Paper Co., particularly Glosseal frozen food wraps, bread wraps, waxed glassine, laminated foils, gummed tape, dried fruit wraps, etc. . . .CZ men who served on various boards for the Exposition included George Donald, manager, Western Waxed, N. Portland; Andrew Johnson, manager of packing and containers of Zellerbach Paper Co., San Francisco; Karl Wuestenfeld, sales manager, Western Waxed, San Leandro; and George Chase, manager of Western Waxed packaging research, San Leandro.

Fibreboard Offices to Embarcadero

The shortage of downtown office space and the traffic congestion and lack of parking facilities which are a major inconvenience to customers and personnel are causing business executives to look afield when they search for new office locations. Thus far, there has been more talk than trend, but a number of firms already have moved out of downtown canyons.

San Francisco Fibreboard Products, Inc., has removed its head offices from the Russ building to the upper two floors of its seven-story warehouse at Montgomery street and the Embarcadero, opposite Pier 31. A large penthouse cafeteria has been added to the building to accommodate employes.

No estimate of cost was announced, but it is believed that the very extensive remodeling came to around $500,000.

The top floor is given over to the general and executive offices controlling the activities of Fibreboard's 16 plants and 13 sales offices.

The sixth floor is devoted to the San Francisco division sales and executive offices and the sales offices of the company's wholly-owned subsidiary, Glass Containers, Inc.

Fibreboard is largely controlled by the Crown Zellerbach Corp., which holds 44.1 percent of its A stock, 50 percent of its B stock, and 39.7 percent of its $7 preferred stock.

T. N. Bland, vice-president and general manager, estimates that the present facilities will meet all foreseeable demands for office space for the next ten years. The company will then be able to expand its offices to the other floors, which now are being used for warehousing and some light manufacturing. Donald R. Hay, office manager, has declared that "the new offices give at least 100 percent greater efficiency, because of added space, better lighting, and more convenience."

Atlanta Paper Co. in New Home

ATLANTA, Ga. — The Atlanta Paper Co. has moved from 225 Moore street, S.E., to its new seven-acre plant on Marietta street in Ashby. The company employs some 700 persons and will produce from 10 to 15 carloads of finished goods a day. The firm serves an international market.

Fort Worth Converter Incorporates

FORT WORTH, Texas — Gale Paper Products, Inc. (manufacturing), has been chartered as a Texas corporation with authorized capital stock of $50,000. Incorporators are S. R. Gale, Ben E. Ellman, E. L. Gilbert.

Krafco Offices to Dallas

DALLAS, Tex. — Krafco Container Corp., West Monroe, La., will move its key executive, administrative and sales staff to Dallas on October 14, G. W. Scrimshaw, president, reports. Offices will be in the Mercantile Securities building.

The manufacturing plant at West Monroe will not be moved. The company does a national business in shipping cartons.

Mr. Scrimshaw added that, in addition to himself, his associates to move to Dallas include William B. Scott, vice-president in charge of sales; Harold P. Kyle, vice-president in charge of operations; and Claude Dodgen, office manager. The office here will be manned by a staff of 45 persons.

Sealright Keglers Start Rolling

FULTON, N. Y. — Charles A. Swain, Mrs. Sue Taormina, and Miss Margaret Judd have been elected presidents of the three Oswego Falls - Sealright Co. employes bowling leagues. They open their season on September 12 at their Recreation Club alleys.

Leading the men's bowling league with Mr. Swain are: George Bond, vice - president; and Wright Sheldon, secretary-treasurer. Approximately the same number of five-man teams as last

4+8 Works Here at the Lake Charles, La. plant of the Mathieson Chemical Corp.

4+8 Works Here at the Kodak Park plant of Eastman Kodak Co., Rochester, N.Y.

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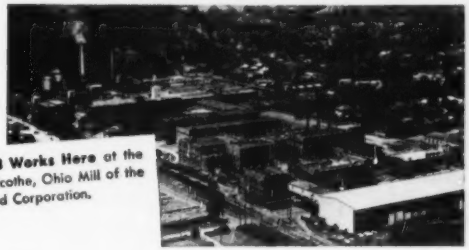

4+8 Works Here at the Chillicothe, Ohio Mill of the Mead Corporation.

4+8 Works Here at the Midland, Michigan plant of The Dow Chemical Company.

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With four basic circuits and eight basic component parts you can get more than 100,000 different electronic instrument and control combinations. Your problems of measuring and controlling flow, level, speed, pressure temperature, gas analysis, pH, conductivity, etc., can be solved by the right combinations of these 4 circuits and 8 basic parts.

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year, 48, will again comprise one of the largest industrial bowling organizations in New York State.

The women bowlers at Oswego Falls-Sealright are organized into production division and office workers league. With Mrs. Taormino at the head of the production league are Irene Curtis, vice-president; Rose Potocnak, secretary; and Lucille Rebeer, treasurer. With Miss Judd leading the office girls league are: Mrs. Florence Tuck, vice-president; Miss Wilma Foster, secretary; and Miss Helen Hughes, treasurer. The production division women will have ten teams, the office women, six.

Sturgis Carton Co. Open House

STURGIS, Mich. — The newly formed Sturgis Carton Co. will hold open house September 15, company officials report. The concern manufactures cartons for several national food, candy, and soap companies. When completed the firm's plant will occupy 37,000 square feet of floor space.

Company officers are: Miss Kay Kent, president; Otto Vavra, vice-president and sales department manager; Joseph Mildenberg, secretary-treasurer and general manager.

Croomwell Paper Co. Elections

CHICAGO—David Maxwell Weil has been elected to the newly created office of chairman of the board of the Cromwell Paper Co. He has been secretary-treasurer and will continue as treasurer. John Metzenberg, who has been vice-president, becomes president, succeeding the late Joseph Weil, founder of the company. Richard R. Rubel and Robert Cutler Brown have been elected vice-presidents, and George J. Struck has been named secretary.

Beckwith Incorporates

MEDFORD, Mass.—The Beckwith Container Corp., 13 Winchester street, Medford, Mass., has been incorporated to manufacture, buy, and sell paper, fibre board, etc. Capital stock consists of 40 Class A npv common shares, 40 Class B npv shares, and 20 Class C npv common shares. Samuel J. Beckwith is president; Leonard J. Beckwith, treasurer; and Charles C. Craig, clerk.

Warren C. Z. Converting Manager

SAN FRANCISCO—B. F. Warren, assistant consulting professor industrial management at the Stanford Graduate School of Business has been named converting manager of the Crown Zellerbach Corp., Camas, Wash.

Kravit Named Novelart S. M.

LONG ISLAND CITY, N.Y.—Bernard Kravit has been named sales manager of the Novelart Mfg. Co., Inc., manufacturer of novelty stationery. He was formerly with Joseph Reiss Associates.

Incorporation Dissolution

GRETNA, La. — Notice of dissolution of incorporation has been filed with the office of the secretary of state at Baton Rouge, by the Modern Bag Corp. of this city.

Cincinnati's Excello Enlarges

CINCINNATI — The Excello Paper Products Co. and Mead Board Sales Co. are now in new quarters on Madison road, just east of the B. & O. railroad crossing in Oakley. Excello makes boxboard and other specialty boards. G. C. Bauer, plant manager, states that the new plant is being equipped throughout with new machinery.

Rotarians Tour Lock-Fold Plant

CHARLEROI, Pa. — Charleroi Rotary Club members recently toured the Lock-Fold Paper Box Co. plant as guests of Manager John J. LaCarte.

ASSOCIATIONS . . .

Paper Mill Men's Hi-Jinks

LOS ANGELES — The annual Hi-Jinks of the Paper Mill Men's Club of Southern California will be held September 30 at the Oakmont Country Club, Glendale, Calif., Bill Gardner, treasurer, reports. This Hi-Jinks is sponsored by the Mill Men's Club, who act as hosts, and is the top social occasion of the year among paper and twine sales executives and wholesalers.

The Hi-Jinks will be an all-day affair beginning with sports in the morning and winding up with a gala dinner and entertainment in the evening. Sports events will include golf, soft-ball, horseshoes, swimming, and any other outdoor games the hosts and guests can think up. Chief event of the day will be the annual softball game between the mill men and the wholesalers.

Plans for the 1949 Hi-Jinks were perfected at the final report meeting of the Hi-Jinks committee, which included the following members: C. J. Warren, Paper Container Mfg. Corp., general chairman; Fred Ward, Powell River Sales Co., door prizes; Lou Levine, Sterling Products, Inc., soft ball; Carter Flynn, finances; Cap Fisher, Sherman Paper Products Corp., program; Merle Paup, Comfort Paper Co., entertainment; and Fred Schroeder, Sealright Pacific, Ltd., arrangements. That meeting was held August 10, at the Jonathan Club, Los Angeles, and those in attendance were G. N. Madigan, past president of the club; Roland Wolf; Jerry Thiem, also a past president; Irving Damon, current vice-president; L. A. Gardner, current treasurer; and Messrs. Ward, Levine and Paup. President of the Mill Men's Organization is Jack Leiser of the Pioneer Wrapper Co.

Pa.-N. J.-Del. Supts. Two-Day Meeting

MOUNT POCONO, Pa.—The Fall Meeting of the Pennsylvania-New Jersey, Delaware division of the American Pulp & Paper Mill Superintendents Ass'n., will be held at St. Patrick's Inn, here on September 30 and October 1. The program planned for the meeting is as follows:

Friday—September 30

12:30 P. M.—Golf (A. M. Hartley, chairman).

2:00 P. M.—Registration. Mrs. Alice R. Dow, in charge.

Saturday—October 1

10:00 A. M.—Business Meeting. John O. Sproute, chairman. "Relation of a Maintenance Program to Felt Operation." L. M. Woodside, Albany Felt Co.

12:00 Noon—Joint Luncheon. Ralph Kelly, president, Chamber of Commerce, Philadelphia, speaker.

2:00 P. M.—Ladies' card party, or outdoor activities if weather permits.

2:00 P. M.—Business Meeting. Glenn T. Renegar, chairman. "Paper Machine Auxiliaries," John C. Harper, Downingtown Mfg. Co.

3:00 P. M.—"Controlled Flow of Noble & Wood Victory Beater," Frank Hayes, sales manager, Noble & Wood Machine Co.

7:00 P. M.—Banquet. Main dining room. Harry Hulmes, Jr., and Ray Wilcox, chairman. Floor show and dancing, Shamrock room.

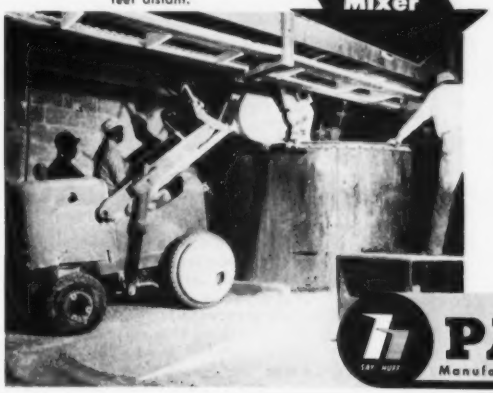
Gathered recently at the Jonathon Club, Los Angeles, to plan the Hi-Jinks Meeting of the Paper Mill Men's Club of Southern California to be held September 30 at the Oakmont Country Club, Glendale, Calif., were: left to right—Fred Ward; G. N. Madigan, past president of the club; Lou Levine; Roland Wolf; Jerry Thiem, past president; C. J. Warren; Carter Flynn; Jack Leiser, current president; Merle Paup, and Irving Damon, current vice-president. . . Present also, but out of the camera's range, was L. A. Gardner, current treasurer.

How PAYLOADERS Solved a Complex Material Handling Problem

. . . at St. Regis Paper Company

Saves 24 manhours per car unloading bulk clay.

Saves ½ manhour per ton moving clay from storage to mixer, 138 feet distant.



THE PROBLEM:

To speed the unloading of 2 to 3 box cars of bulk clay and salt cake daily . . . reduce the time and manhours required on a major handling procedure . . . load clay into hoppers . . . transport materials from stockpiles and feed them to mixer . . . operate beneath low headroom . . . eliminate outmoded manual handling operations . . . perform maintenance and clean-up operations . . . load dirt and refuse into dump trucks.

THE SOLUTION:

Slow, back-breaking hand shoveling and wrestling with hand buggies are "out" at St. Regis' Kalamazoo plant, and both management and labor are glad of it. Two HA Payloaders now do the "bull-work"—faster, easier and cheaper. One Payloader unloads and delivers to a hopper two and three carloads of bulk clay a day, in half the time formerly required and at a saving of 24 man hours per car. Another one moves clay from stockpiles to mixer — picks up its loads, carries 138 feet and dumps directly into the mixer at a saving of 1/2 manhour per ton over the former method. These Payloaders also unload salt cake from cars and are regularly called upon to perform other material handling work and many odd jobs in and around the plant.

It will pay you, too, to find out how Payloaders can cut production costs. Payloaders are unique in name, in design and in proven performance with a combination of power, maneuverability and versatility that can save time, labor and costs on so many bulk-handling jobs. The Frank G. Hough Co., 747 Sunnyside Avenue, Libertyville, Illinois.

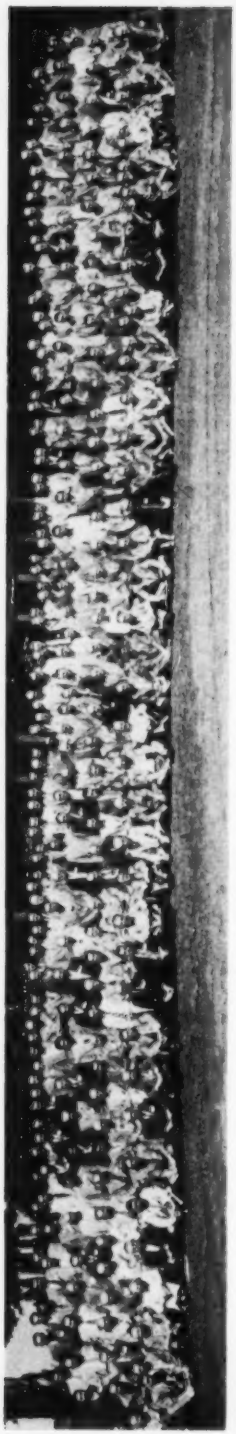
Job Study No. 15 is available covering the complete analysis of St. Regis Paper Company's use of Payloaders. Write for your copy — it's free.

HOUGH PAYLOADER

Manufactured by THE FRANK G. HOUGH CO.

186 HAMMERMILL AGENTS ATTEND 36TH ANNUAL CONFERENCE AT ERIE, PA.

C. W. Stuyvesant of Alling & Cory Co., New York, Elected Chairman of Agents Advisory Committee



MERCHANTS . . . .

36th Hammermill Agents Meet

ERIE, Pa.—How the Hammermill Paper Co. and its merchant distributors can work together to restore profit margins to an equitable level—was the major topic at the 36th Conference with Hammermill Agents here August 24-26. Paper merchants from all over the U.S. attended the meetings; the 186 attendance figure being one of the highest for any of the thirty-six conferences.

Opening business session was Norman W. Wilson, Hammermill president.

Following Mr. Wilson, Donald S. Leslie, Hammermill's first-vice president and general manager, spoke, mentioning that important mill improvements which have been made since the conclusion of Hammermill's $8,500,000 postwar expansion program.

Bruce Barton, of Batten, Barton, Durstine & Osborn, Inc., Hammermill's advertising counsel, was a guest speaker.

Attending the Conference with Mr. Barton was Alex D. Osborn, vice chairman of the board of B.B.D. & O.

Other Hammermill spokesmen at the meeting were John D. Zink, vice president and director of merchandising; Grant Richardson, manager of sales, and Mortimer E. Graham, company secretary.

A feature of the meeting was a two-hour-long Forum discussion during which mill and merchant spokesmen exchanged opinions on various phases and problems of their closey allied businesses. Following this discussion, A. Ellis Frampton, manager of advertising and sales development, spoke about the mill's recent and current advertising.

Prior to the general business sessions, members of the Agents' Advisory Committee met with mill officials on August 24 at Weigela Lodge, Mr. Wilson's country home, for a discussion of the Conference program. Committee members present were: Eric A. Rohrer, Swigart Paper Co., Chicago, chairman; L. V. Mulnix, Carpenter Paper Co., Grand Rapids, Mich.; Frank H. Winter, Carter, Rice & Co., Corp., Boston, Hugh G. Boyer, Caskie Paper Co., Inc., Charlotte, N.C.; C. W. Stuyvesant, Alling & Cory Co., New York; C. S. Lafferty, Beacon Paper Co., St. Louis; C. H. Williams, Clements Paper Co., Nashville, Tenn.; C. R. Smith, Garrett-Buchanan Co., Reading, Pa.; Victor E. Hecht, Zellerbach Paper Co., San Francisco.

The assembled Agents elected these men to serve three-year terms on the Advisory Committee: Paul M. Jones, Storrs & Bement Co., Boston; E. J. Petrequin, Petrequin Paper Co., Cleveland; L. A. Ramaker, Bouer Paper Co., Milwaukee. C. W. Stuyvesant, Alling & Cory Co., New York, was elected chairman for the coming year.

Elected for three-year terms on the Paper Committee were: T. H. Epes, Jr., Epes-Fitzgerald Paper Co., Inc., Richmond, Va.; H. J. Foulds, Alling & Cory Co., Cleveland; Frank P. Leslie, Jr., John Leslie Paper Co., Minneapolis. Carl J. Rusie, Crescent Paper Co., Indianapolis, was elected to fill the unexpired term of a former committee member.

Final afternoon of the Conference was devoted to golf and other games.

Graham Paper Co. Expanding

ST. LOUIS—Since 1885, opening date of the Graham Paper Co.'s first branch house in Kansas City, the company has grown steadily. Enlargement of the warehouse and office facilities here at an estimated cost of $125,000 is now under way. Recent expansion has also taken place in Chicago, Knoxville, Tenn., and Jackson, Miss. John Wilson's Chicago division moved recently to 405 West Lake street, where a private railroad switch, and inside truck loading facilities provide better service for customers. At Knoxville, and Jackson, a similar change have been made. In the later city a sales office and warehouse is now open at 750 Ricks street, under managership of Joe E. Crawford.

Jax. Reps. Hear 12 Mill Men

JACKSONVILLE, Fla.—When managers and sales representatives of the Jacksonville Paper Co., and its 16 branches, totaling 150 men from Georgia, Alabama, the Carolinas, Mississippi and parts of Florida, recently held their annual two-day convention here they heard representatives of 12 of the company's supply mills present their products, outline uses and give them ideas for sales promotion. At the meeting, President C. G. McGehee also discussed the Calcasieu Paper Co., Inc., a subsidiary at Elizabeth, La., of which he is also president, where $6,500,000 is being spent for modernization and expansion. The convention ended with a buffet dinner at Ponte Vedra Bath Club.

Merchants' July Sales

WASHINGTON — Paper and allied products wholesalers had July sales totaling $6,358,000, ten percent below June sales, the Census Bureau reports, basing its data on figures from 59 firms. July sales were 12 percent below those of a year earlier. For seven months this year, sales of the group were 12 percent below those in the same months of 1948. Wholesalers on the Pacific Coast reported the only gain for the month, 21 percent compared with June sales.

Larson Joins Royal Paper Co.

HOLYOKE, Mass.—W. Robert Larson has resigned from the American Writing Paper Corp, where he was employed in the sales and manufacturing departments for the past several years. Mr. Larson will continue sales work in course and fine papers with the Royal Paper Co., Inc., also of Holyoke, in an executive capacity.

HERE'S SOMETHING *NEW* IN

Twisting Tissue

This new twist keeps twisting tissue from breaking in the machine. It's the UFORMITES—urea formaldehyde resins used to wet-strengthen paper. Wherever they are used, tissue can be made into twine more speedily and less expensively.

UFORMITES are easy and economical to use. No pre-treatment or special equipment is necessary. Simply add a small quantity of UFORMITE resin to the pulp before sheet formation. Then wet tissue can be twisted with much less breakage because UFORMITE boosts wet strength 300%. The saving in "breakage-time" more than pays for the resin.

In bag and liner stocks, paper towels, glassine, locker wrap, map paper, blueprint and tag stocks too, you'll find the UFORMITES giving maximum strength at minimum cost. In Kraft stocks, a three-fold increase in wet tensile strength is typical. And similar increases can be obtained in both sulfite and groundwood stocks. Write today for full details of the UFORMITES.

OTHER CHEMICALS FOR THE PAPER INDUSTRY

AMBERLITE W-1—a water soluble polymer for improving the dry and wet tensile and Mullen, as well as the fold and the abrasion resistance of paper.

RHOZYMES BB and E-5—for enzyme conversion of starch.

TAMOL P—for effective pitch control, a dispersing agent for pigments.

TRITONS—surface-active agents with a dozen uses in paper manufacture—for increasing absorbency, controlling foam, de-inking waste, cleaning felts, processing raw cotton or rags, dispersing pigments, improving penetration of sizes, etc.

The **Hydrosulfites**—reducing agents for stripping color from rag stock or for bleaching pulp.

HYAMINES—quaternary ammonium germicides and deodorants used to produce bacteriostatic papers and paper board.

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Luncheon Honors Columnist Himmell

NEW YORK—Samuel S. Himmell, president of the Baldwin Paper Co., Inc., was honor guest at a luncheon at Charles' French Restaurant, commemorating his completion of four years as a "columnist", authoring "Baldwin Brevities", on September 14. Mr. Himmell's column appears in his firm's house magazine and in a number of trade papers circulating to fine paper users.

Louisville's Jenson Retires

LOUISVILLE, Ky.—Charles A. Jenson, 74-year-old treasurer of the Louisville Paper Co., who has been with the firm for 50 years, has retired from that post "in order to play golf." More than 100 employes of the company paid tribute to him at a testimonial dinner on August 30 when he was presented with a pen-and-pencil set and a watch.

Alsobrook Rejoins Atlanta Paper Co.

ATLANTA, Ga.—Bryce Alsobrook, for many years with the Atlanta Paper Co., has reassumed his duties as personnel director of that organization following his recent release from the U. S. Army.

Smith Paper Products Co. Incorporates

PINE BLUFF, Ark. — Smith Paper Products here has been incorporated with authorized capital stock at $75,000. Incorporators are J. H., J. G. and Jack P. Smith.

Hubbs & Howe Service Expansion

BUFFALO, N. Y.—Hubbs & Howe Co. has added Harry V. Arnold and Oscar Nader to the sales department of its fine paper division.

One Candle on Jordan's Cake

NEW YORK—The B. H. Jordan Co., Inc., coarse paper merchant firm, 238 Front street, is currently observing its first anniversary. Mark Hansen is president and sales manager of the firm; J. C. Busse, secretary and Martin Busse, treasurer.

MISCELLANY . . . .

White Collar Changes Proposed

WASHINGTON — Thirty days' notice of revisions he proposes to adopt in regulations governing exemption of certain so-called "white collar" employes from the minimum wage and overtime pay provisions of the Fair Labor Standards Act — the Federal Wage and Hour Law — was given on September 10 by Wm. R. McComb, administrator of the U.S. Department of Labor's Wage-Hour and Public Contracts Divisions.

The proposed revisions clarify the duty requirements of the regulations for the five types of employes involved, and change the salary necessary for exemption of "executive" type employes from $30 to $55 a week, and for "administrative" and "professional" type employes from $200 a month to $75 a week. A new provision would shorten the exemption test for salaried employes of these three types who receive at least $100 a week.

Mr. McComb said the proposed revisions would not materially change the number of "white collar" employes affected, but would clarify application of the regulations to such employes.

Among basic requirements for exemption under the proposed regulations are: (1) "executive" employes must perform managerial duties; (2) "administrative" employes must perform office or nonmanual field work of substantial importance in the management or operation of the business; (3) "professional" employes must perform work requiring advanced knowledge in a field of science or learning or perform creative work in an artistic field; (4) "local retailing" employes must make retail sales mostly intrastate in nature; and (5) "outside salesmen" must be engaged to sell, away from their employer's place of business.

Text of the proposed changes in the regulations (Part 541 of the Code of Federal Regulations) appeared in the September 10 *Federal Register*, together with notice of opportuntiy to submit written comments within 30 days.

Final action will be announced by the Administrator sometime after expiration of the 30-day period.

Mr. McComb's proposed revisions are based on a detailed Report and Recommendations submitted to him by Harry Weiss, a branch director of the divisions, who served as presiding officer during the 22-day sessions of a public hearing, ending in January 1948, on proposals to amend the regulations.

The Weiss Report and Recommendations, which includes interpretations of some of the terms in the proposed regulations, also was made public on September 10.

U. K. Dollar-Saving Hits Canada

OTTAWA—The recent decision of British authorities in reducing imports from such countries as Canada as part of the dollar-saving program has been affecting the Canadian exports to that market, including cuts in exports of asbestos, lumber, mechanical pulp, paperboard, kraft paper, etc., even though the high industrial activities in the United Kingdom in some fields so far this year have resulted in even larger quantities of some products being imported from Canada, including sulphite pulp, because Britain needed such products for the purpose of manufacturing or processing articles she could sell elsewhere.

In addition, the United Kingdom has continued to import certain items from Canada which she could not readily obtain elsewhere, including newsprint paper, in face of the serious dollar shortage. However, it is expected that the United Kingdom will make desperate efforts to get such products elsewhere if possible in order to save dollars in the coming period.

Under these conditons, Canadian representatives taking part in the financial talks in Washington will bear in mind the effects of the British exchange position at present or in the near future in relation to Canada's dwindling own trade position in the all-important British market. Unless these financial talks prove successful, there is a strong possibility of Canadian trade

Paper Merchants' Inventories, September 1, 1949

(In Number of Day's Sales)

(Source: Paper & Twine Ass'n.)

	Kraft Wrap.	Butchers	Groc. Bags	Gum. Tape	Ind. Towels	Wrap. Tissue	Toilet Paper
Illinois	60	..	45	30	45	60	45
"	30	15	20	30	5	..	45
"	60	30	30	30	90	90	120
"	45	60	30	15	30	30	30
"	60	70	45	60	90	60	45
"	15	20	40	30	15	60	45
Indiana	60	45	30	60	30	90	90
"	15	10	20	15	45	..	60
"	30	60	30	30	30	..	14
Iowa	45	30	15	15	30	30	45
Michigan	30	60	30	30	60	30	45
"	30	30	30	75	20	40	25
"	45	45	30	60	45	60	40
"	30	30	30	30	45	30	45
Ohio	40	30	45	45	20	30	25
"	30	30	30	60	30	60	30
"	45	45	20	40	60	60	30
"	40	30	20	20	30	30	30
"	45	45	30	30	45	..	30
Wisconsin	45	30	10	25	20	60	20
"	30	20	60	30	30	60	60
"	30	60	120	45	60	30	60
"	70	70	30	45	70	70	60
"	45	60	45	45	30	90	60
"	60	90	60	30	15	..	15
"	30	35	60	10	7	21	14
"	30	30	45	45	20	30	30
"	45	40	30	45	30	60	30

in the British market dropping seriously, it is understood.

Of interest to the paper and pulp trade as well as other exporters to that market is the disclosure that, in general, Britain exported to Canada in six months this year goods worth $230,000,000 less than she imported from Canada in that period, though this was even better than the $332,000,000 difference in such imports and exports in the same period a year ago. Nevertheless, this continuous drain on British dollar resources requires action of some sort so that the financial talks in Washington are being watched with unusual interest by officials in Ottawa as well as Canadian trade circles.

Five Newsprint Duty Disputes

NEW YORK — Five cases are before the United States Customs Court in which newspaper importers of foreign groundwood printing papers are claiming the paper to be duty-free instead of dutiable at the rate for printing paper, as assessed by Customs officials.

According to Warren B. Bullock, manager of the Import Committee of the American Paper Industry, all of these shipments involve special papers imported when there was a shortage of standard newsprint, and the importers are believed in all cases to have paid a high premium over the normal price for standard newsprint. One case at Portland, Ore., involves paper which was heavily sized. At New Orleans two shipments of paper had an excessive content of sulphite pulp and were more than 35 pounds in basis weight. Two cases at New York involve papers carrying from 11 to 15½ percent ash and one of these was 37-pound basis weight. The papers in these cases were imported from Finland, Sweden, Italy and Austria.

Customs officials have held that multiwall shipping sacks from Canada are not duty-free as paper stock, but dutiable as bags. A mixture of jute and chemical pulp was denied admission duty-free as pulp, but held to be a manufactured product for special use. Material resembling blotting paper has been held dutiable as paper not specially provided for, though claimed to be duty-free as pulp.

Machine finished sulphate wrapping paper imported at Minneapolis from Canada has been held to have been undervalued about four dollars per ton.

Canadian First-Half Imports

OTTAWA — Imports into Canada of paper advanced to $1,685,000 during June this year as compared with $1,590,000 in June a year ago and reached a total of $10,015,000 in the first six months of 1949 as against $9,037,000 last year in the similar period, the Canadian Government reports. Imports of books and printed matter increased to $2,668,000 in June compared with $2,526,000 a year ago in same month and reached $16,082,000 in the January-June period as against $15,505,000 last year.

Canadian Security Prices Up

OTTAWA—Security prices of common stocks in the pulp and paper industrial classification in Canada advanced to 221.4 in July this year as compared with 210.6 in June for a gain of 10.8, with the principal price changes in this period involving increases for St. Lawrence Corp., Great Lakes Paper Co., and Abitibi Power & Paper Co., Ltd., according to the latest survey by the Canadian Government, based on 1935-39 being equal to 100.

Weymouth Admitted to SAPI

CHICAGO—Clark Weymouth of the local S. D. Warren Co., organization has been admitted to membership in Salesmen's Ass'n., of the Paper Industry, Western Division.

(Continued on page 51)

SUPPLIERS . . . . .

A. E. Staley Mfg. Co., Decatur, Ill., will start construction of a new soybean oil extraction plant about September 15 to be completed next July. The construction contract, awarded to the H. K. Ferguson Co., Cleveland, also calls for an addition to the preparation building, where soybeans are made ready to go through the oil extraction process, and expansion of underground storage for hexane, which is used to wash the oil out of the flaked beans. A contract was previously awarded to the Blaw-Knox Co. for engineering work on the new building and for supplying the principal machinery. Contract for installation of machinery has not yet been awarded. The new plant, which will have a rated daily capacity of 800 tons of soybeans, will be adjacent to the first plant, which has a rated capacity of 500 tons. Operation of the company's expeller plant will be continued for as long as possible, according to A. E. Staley, Jr., president, but "we don't think it will be very long," he added. Conversion of the company's entire soybean processing operation to the extraction method will not increase over-all capacity, he said, but will make it possible to discontinue use of a less efficient process.

Westinghouse Electric Corp. named A. M. Fisher as northwestern district industrial manager and J. A. Holden as manager of the Milwaukee office. Mr. Fisher succeeds W. J. Maythem, Jr., who will take up other duties within the company, while Mr. Holden succeeds Mr. Fisher.

Monsanto Chemical Co's. central research department, Dayton, Ohio, has developed a high molecular weight alcohol to which it has given the temporary name "AE-1". It is described as having widespread potentialities as a chemical intermediate having uses in resins, plastics, protective coatings, adhesives, and oil additives.

As a petroleum additive it can be used in cutting oils and anti-wear oils; in plastics it can be used as a plasticizing agent, and as a resin modifier for bituminous and asphalt type compounds. As a plasticizer it is recommended as being compatible with nitrocellulose and other cellulosic derivatives, as well as a plasticizer for chlorinated rubber; in the protective coating field it is recommended for applications in lacquers, varnishes and as a pigment dispersant. For adhesives it is recommended as a plasticizer for casein type and other water-soluble glues as well as the non-water dispersible type adhesives. AE-1 also is believed to be applicable in paper and textile chemicals, Monsanto's Dr. Carroll A. Hochwalt said. Monsanto's Phosphate Division has issued Technical Bulletin P140 describing this new product.

James Deshler II, president of Edgar Brothers Co., Metuchen, N. J., reports that voting control of the 50-year-old company has passed to its employes. Under a recapitalization plan all of the large common stockholders either sold stock to employes or exchanged it for new preferred stock. This plan, says Mr. Deshler, was made possible through the practical generosity and far-sightedness of members of the Edgar family, who, by adopting the plan and by maintaining their investment in the corporation, have expressed their confidence in the company, its management, and its future. No change in current company policies or operations is expected.

Griffith Rubber Mills, Portland, Ore., has recently invested over a quarter of a million dollars in modernizing plant facilities and purchasing new equipment to improve its facilities for the manufacture of roll covering for the paper industry, Z. A. Wise, vice-president and general manager, reports. In addition to purchase of a building to house new equipment, Griffith Mills has purchased several vulcanizer tubes, one of which is the largest on the Pacific Coast. A multiple drill, one of three such machines in the United States; seven hydraulic presses; a Banberry and 60-inch mill and extruding machine, also have been added.

R. M. Radsch, sales manager of the Appleton Machine Works, Appleton, Wis., addressing the local Optimists Club on August 25 on "The Romance of the Pulp and Paper Industry," said that 75 percent of the residents of Appleton are dependent, directly or indirectly, upon the paper industry.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., reports the discovery and development of Erifon, a durable flame-retardant chemical for cotton and rayon, which does not change the appearance or feel of those materials. An inorganic chemical, Erifon differs from other flame retardants in that, according to scientific theory, it reacts chemically with the cellulose molecules of fibers—rather than merely coating

the fiber surface. A solution of titanium and antimony salts, it locks into the molecular structure of the fibers, changing them chemically but causing no change in physical properties, according to present theory.

Nilsa Demonstrations

HUDSON FALLS, N.Y. — About the first of last April the public was informed a new type of automatic bag machine known as the Nilsa and at the same time the Nilsaton two, three, four and six-color printing presses were introduced to the American converting trade by the Sandy Hill Iron and Brass Works of Hudson Falls, N.Y.

Several hundred persons took advantage of the opportunity to witness demonstrations which took place during the next few months. During the demonstration several sizes of SOS single wall bags were run with many colors and kinds of inks being demonstrated. A four-color printing press was also demonstrated on decorative papers of several weights and types ranging from lightweights to heavy box board as high as 30 point thickness.

From the successful showing of this equipment came a demand for further demonstrations and arrangements were made to bring from Sweden a second machine, this a duplex bag machine coupled with a two-color printer. This is being run for the public from September 10 to October 15.

Invitations have been issued to the printing and bag making trade to send members of their organizations from technical staffs, engineers, maintenance men, or printers in addition to representatives of management. Firms are invited to run tests on their own paper stocks and using their own inks.

To back up claims of a superior quality of bags at higher rates of speed, the American manufacturers of the Nilsa bag machine point to production records kept for an eighteen month period in which a running waste of less than 1 percent was recorded. Speeds of 15,000 bags or more per hour are normal on specialty bags. Another advantage offered is the operation of the bag machine and printer with two or three colors at the same time. It is further claimed that there is an appreciable saving in time when changing orders and in start-ups.

Four machine types of the Nilsa automatic bag machine, the 30, 40, 50 and 60, cover the standard range of bags from ¼-pound to 25-pound sizes in the multiwall or single wall SOS type of bags with special attachments for such items as cellophane windows and dustproof bags.

The Nilsaton printing press may be coupled as a two or three color printer with the bag machine or preprinting the bags. It may also operate as a roll printer for two, three, four or six colors for decorative and wrapping papers.

The unique feature of the Nilsaton printing press is an ink fountain design which eliminates rubber rollers on the press. The fountain is moved in direct contact with the print rolls carrying the rubber printing plates. The paper, running over an impression roll, is also brought in contact with a print roll so that the ink is transferred directly from the fountain to the print roll and then to the paper without the use of rubber rollers.

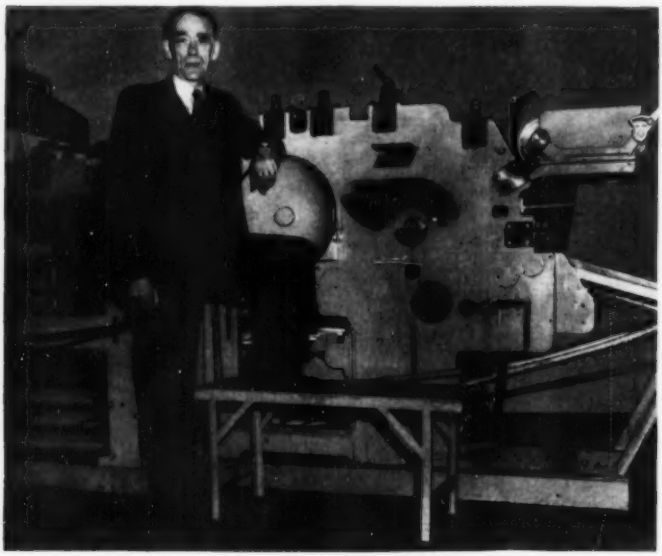
Because of the absence of rubber rollers, time for color changes has been cut to an average of five minutes, Sandy Hill reports. Seasonal and climatic problems arising from rubber rolls are eliminated and an appreciable reduction is evidenced in the total cost of printing the company reports.

The American firm points out that the specially designed ink fountain conditions the ink at all times when running, thus keeping it in a uniform manner. It is further claimed that the fountain measures the exact amount of ink needed to transfer to the paper.

The Nilsaton can use aniline pigmented inks, 100 percent pigment inks, letter press inks, oil inks, glassine inks and some form of gravure inks. Simplicity of construction provides accessibility of all moving parts, thus insuring low maintenance costs. This press can be used for continuous roll preprinting for later use in a different form. It can be run in direct combination with continuous processing, such as a bag machine.

Nilsaton presses, working as a printing unit, are capable of producing high grades of printing at 600 or more feet per minute under proper general conditions common to printing, paper and ink.

Special attachments are available such as forced drying for higher speeds, slitter and counter roll rewinders, as well as compensators which make it possible to run the printing presses in combination with continuous process work.



Nils Anderson, inventor of the new machine, demonstrates its operation in the plant of the Sandy Hill Iron & Brass Works, Hudson Falls, N. Y.

Paper Men Visit Lukens Steel Co.

COATESVILLE, Pa. — On September 1, approximately 100 engineers and executives visited the plants of the Lukens Steel Co. and Divisions, By-Products Steel Co. and Lukenweld, as guests of Robert W. Wolcott, president of the company. This was the fifth executive visitation to be held by Lukens during the calendar year.

Guests at the September 1 visitation included many well-known industrialists in the pulp and paper and chemical fields.

The tour held particular interest for these guests, including as it did a trip through the Clad Steels department where Lukens corrosion-resistant materials — Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad Steels — are manufactured. Tons of these materials are produced for the pulp and paper and chemical fields.

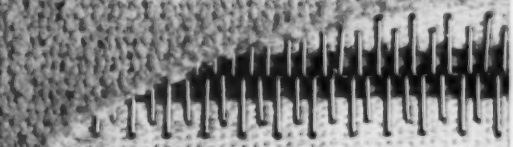
The visit included the nickel-plating plant, which prepares the "inserts" of Stainless Steel and Inconel for bonding to the backing plates of carbon steel, (unnecessary in Nickel-Clad and Monel-Clad) thus assuring a permanent bond in all the Lukens Clad Steels.

Another feature of the tour, at the Clad Steel Department, was the testing being done on Clad Steels. Samples of

New STAGGERED BUTT

Clipper Seams

Pure NYLON stitched—No Staples



Our "STAGGERED BUTT" Clipper Seam requires no flap. Felt joint is set slightly back of the clipper hooks to form its own flap over the clipper seam. (Shown in cut-away section.)

Pure Nylon is used for stitching clipper tabs to the felt. No staples to rust or break, or burn the felt threads.

Try this IMPROVED clipper seam—now available on all Brandon Felts—Cotton or Asbestos.

Morey Paper Mill Supply Co.

309 SOUTH ST., FITCHBURG, MASSACHUSETTS

Sole Distributors of Dryer Felts Manufactured by

BRANDON CORPORATION • Greenville, S. C.

Left to right: R. S. Brookover, superintendent, Crown Paper Board Co., Inc., Philadelphia; Arthur C. Bird, and A. H. Gridley, chief engineer, Hardy S. Ferguson & Co., New York; L. A. Baldwin, vice-president, industrial department, Johns-Manville Sales Corp., New York; D. L. Horigan, development engineer, Lukens Steel Co., Coatesville, Pa., with George L. Snyder, assistant manager, development engineering, Lukens Steel Co.

Left to right: E. A. Charlton, consulting engineer, New York; Jesse F. Good, mill superintendent Hinde & Dauch Paper Co., Gloucester City, N. J.; John Moran, engineering section, Stevens & Wood, Inc., New York; W. D. Wendt, plant manager, Hinde & Dauch Paper Co., Gloucester City; J. H. Matthews, vice-president, Raybestos-Manhattan, Inc., Passaic, N. J., with John F. Maguire, development engineer, Lukens Steel Co.

Left to right: H. W. Fieberts, development engineer, Lukens Steel Co.; J. H. Sutsin, property engineer, and I. L. Grodin, equipment engineer, Continental Paper Co., Ridgefield Park, N. J.; Dean Kohlhepp, development engineer, Lukens Steel Co. . . Mr. Kohlhepp was group guide.

Type 410 Stainless-Clad Steel were heated to 1000°F. and water quenched to below 400°F. without affecting the strength of bond. (This cycle has been repeated 350 times with standard ASME shear tests made at intermediate points, and the shear strength remained approximately double the minimum requirement of 20,000 psi of the ASME Boiler Code specification.) The Magna-Gage test of the cladding was also demonstrated, showing that the thickness of corrosion-resistant material is uniform throughout the entire clad steel plate.

Lukens sodium hydride plant for descaling and pickling Clad Steel plates and heads was also an important part of the trip. This is the largest and most extensive plant of its kind, with facilities for descaling plates up to 456 inches long. The method imparts a smooth easy-to-keep-clean finish.

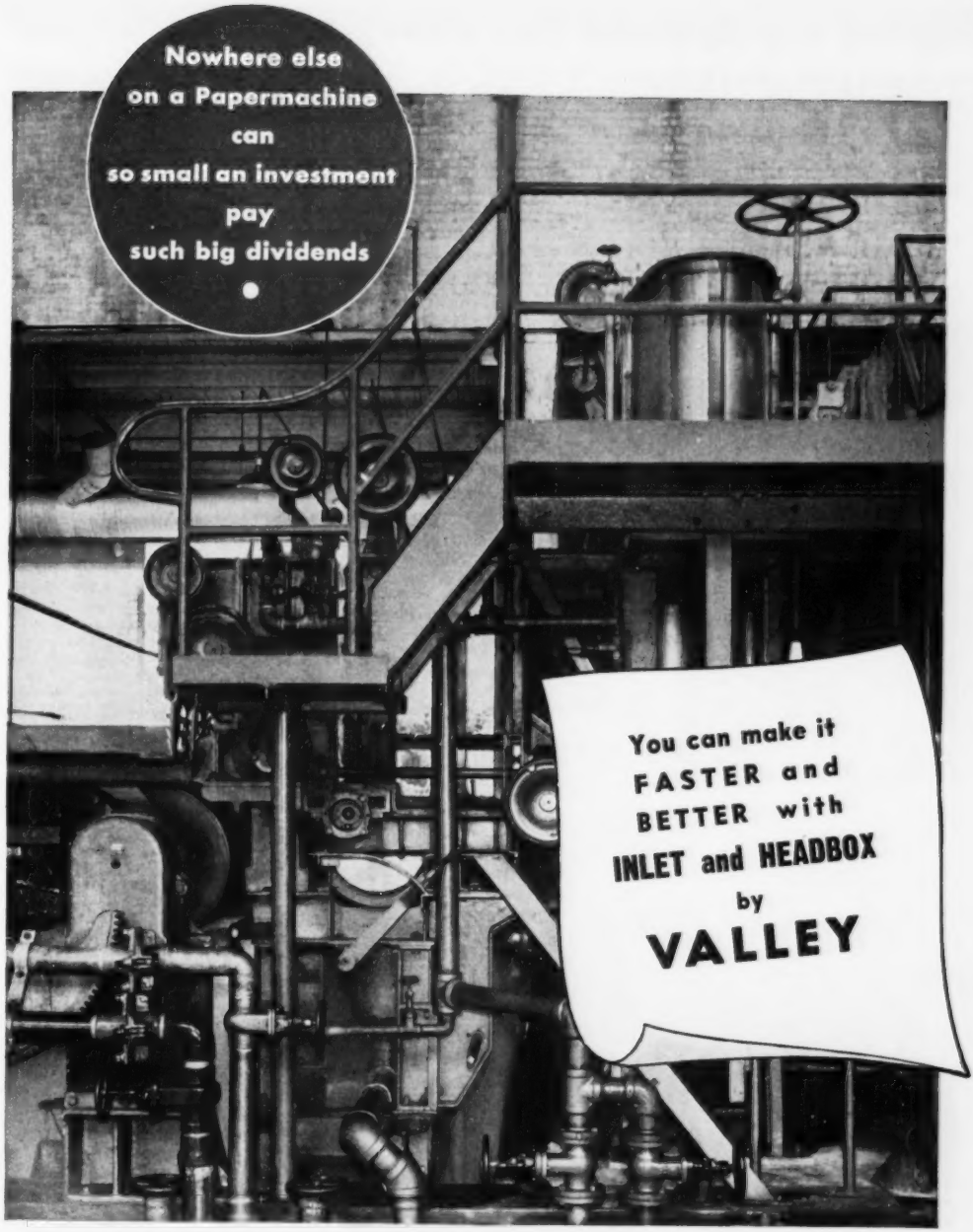
At Lukenweld, the fabricating division, drier roll manufacture proved stimulating to the visitors. The novel construction features were easily apparent when jacketed-steel drier rolls were viewed in progressive stages of fabrication, first the inner steel plate shell with its orifices for steam entry through the spokes, then the outer steel plate shell and finally the machined assembly — the completed Lukenweld Jacketed Drier Roll — ready for installation.

Lukenweld produces steel drier rolls and drier sections, heavy weldments of all types, clad steel pipe and finished machinery for the pulp and paper, chemical and allied fields. Items then under fabrication were all plainly marked with captions to explain their purpose to the visitors. A photograph gallery at Lukenweld showed some of the typical Lukenweld welded steel products.

A tour of Lukens would not have been complete without a visit to the 206-inch Mill — world's largest plate mill — where plates up to 195 inches wide are regularly produced. Wide plates have resulted in the economical fabrication of large and heavy equipment including some of the largest stills, tanks and towers now in use. Such equipment also utilizes heads spun on Lukens spinning machines. Visitors saw the largest flanging machine ever built spinning heads of carbon steel, clad steel and other ferrous and non-ferrous materials. The biggest machine can produce heads up to 246" in diameter.

Steel at white heat was seen in the Open Hearth department where Lukens 12 furnaces produce the carbon and low-alloy steels used in its steel plate specialties.

The tour was concluded in a plant of the By-Products Steel Co. division, where heavy equipment for pressing, bending, shearing and blanking steel plate shapes was seen in action, producing components of fabrication, including rings, shells, bent sections and pressings.



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Take This Hydraulic Barker Hookup, for example. As in so many other pulp and paper mill installations, Crane supplies all piping equipment. One order covers everything for the job—valves, fittings, pipe, and accessories . . . for every fluid or working condition. This unequaled selection is available to you—wherever you are—through local, well-stocked Crane Branches and Wholesalers.

Many mill operators have long recognized the advantages of standardizing on Crane as a **Single Source of Supply.** There's no better way to simplify every piping procedure, from design to erection to maintenance. **One Responsibility** for materials leads to better installations, avoids needless delays. **High Quality** in every item from Crane helps to assure dependable performance from end to end of piping systems.

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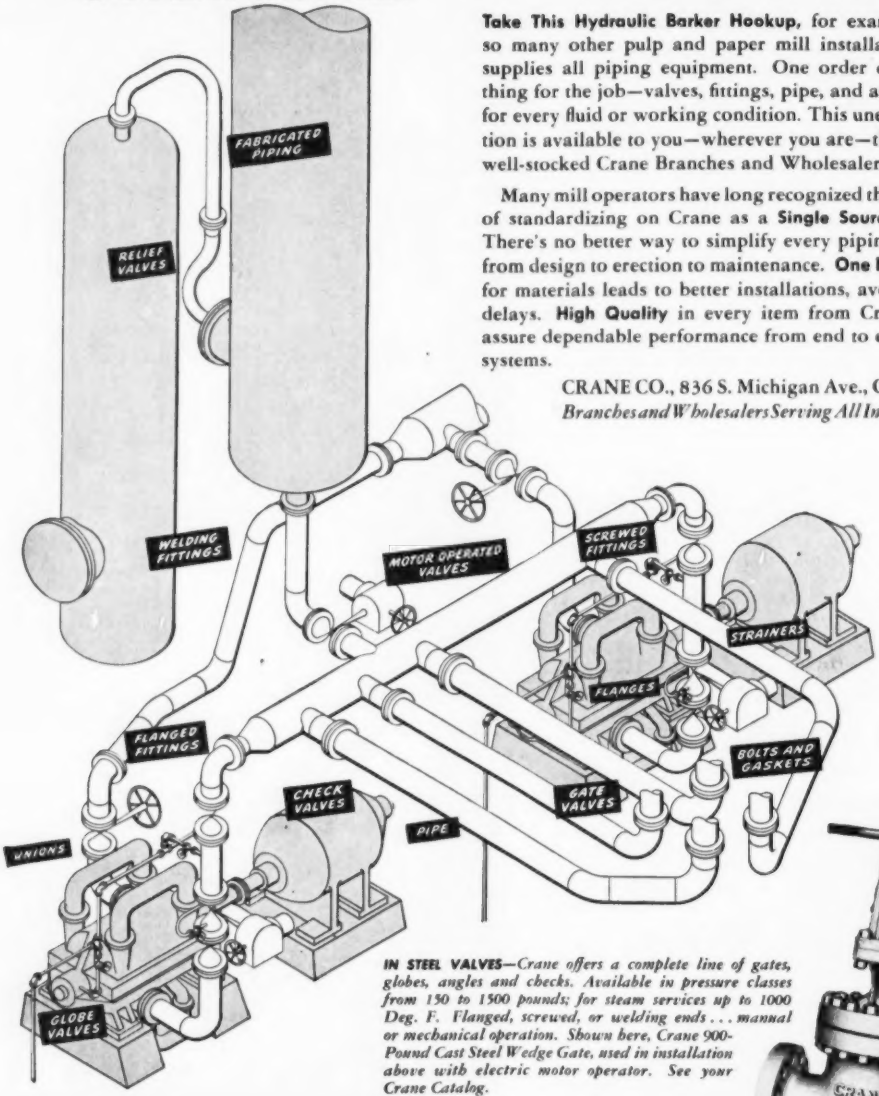
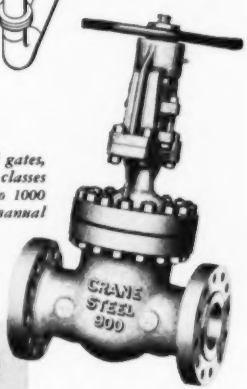


Piping hookup to pumps and accumulators in a high-pressure hydraulic barker system.

IN STEEL VALVES—*Crane offers a complete line of gates, globes, angles and checks. Available in pressure classes from 150 to 1500 pounds; for steam services up to 1000 Deg. F. Flanged, screwed, or welding ends . . . manual or mechanical operation. Shown here, Crane 900-Pound Cast Steel Wedge Gate, used in installation above with electric motor operator. See your Crane Catalog.*



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Groundwood Pulping of Five Common Northeastern Farm Woodland Species[1]

(Eastern White Pine, Yellow Birch, Red Maple, American Beech, and White Ash)

By

E. R. SCHAFER and AXEL HYTTINEN

Chemical Engineers, Forest Products Laboratory,[2] Forest Service, U. S. Department of Agriculture

Abstract

Groundwood pulping experiments were made on Eastern white pine, yellow birch, red maple, American beech, and white ash, woods that grow extensively on farm woodlands in the Adirondacks and other northeastern areas. Pulps were made from each species, a naturally occurring mixture of the hardwoods, and a mixture of the pine and the hardwoods. The white pine was found to be suitable for making groundwood pulp with strength and brightness comparable to that of commercial softwood groundwood pulps. Of the hardwoods, red maple produced the strongest groundwood pulps and beech the weakest. In strength and fiber length the pulps made from these individual and mixed hardwoods were similar to those obtained from other hardwoods of similar density. Their best use would be as filler pulps in the softer, bulkier grades of paper. With the possible exception of the white ash, the hardwood pulps would need to be bleached before they could be used in appreciable quantities in white papers. The strength and brightness of the pulps made from the mixture of pine and hardwoods indicated that groundwood suitable for newsprint might be made by grinding mixtures containing up to about 35 percent of hardwoods by volume.

Introduction

Inadequate supplies of the more favored softwood species used by paper mills in New York and other Northeastern States are forcing these mills to obtain new supplies from outside of the region. In 1948, they imported 1,340,000 cords of pulpwood. The use of the remaining native woods therefore offers attractive possibilities if found technically feasible. In New York State, for example, large quantities of Eastern white pine and mixed hardwoods are available as pulpwood from farm woodlands in the Adirondack region. Groundwood pulp is the most important type of pulp, from the standpoint of number of mills and quantity produced, in Northeastern New York. Information on the groundwood pulping characteristics and properties of the pulps produced from these species when ground alone and in naturally-occurring mixtures is, therefore, of importance in increasing the marketability of such woods and hence their value to the farmers owning such woodlands.

This report presents the results of groundwood pulping experiments made at the Forest Products Laboratory on Eastern white pine *(Pinus strobus)*, yellow birch *(Betula lutea)*, red maple *(Acer rubrum)*, and American beech *(Fagus grandifolia)*, white ash *(Fraxinut Americana)*, and also on a mixture of hardwoods as they occur naturally and on a mixture of the Eastern white pine and the hardwoods.

E. R. SCHAFER

Experimental Procedure

Description of the Wood: The wood used in this work had been cut near Ticonderoga, New York.[3] The hardwoods were peeled and quite dry when received. The white pine was unpeeled and fairly green. Certain physical characteristics were determined on disks cut from the logs taken for the groundwood pulping work. These are presented in *Table I*.

Grinding Equipment and Testing Procedure: The Forest Products Laboratory experimental three-pocket grinder is equipped with a pulpstone 54 inches in diameter and 8 inches in width. For this work an aluminum oxide abrasive pulpstone of fine-grain size and open structure was used. The stone had been dressed with 10-cut, 1½-inch lead, spiral, and 14-point diamond burrs and conditioned by grinding wood for 45 hours prior to the start of the experiments. The stone surface was considered to be sharp.

AXEL HYTTINEN

Table I

Physical characteristics of the woods tested for groundwood pulp

Shipment number	Species	Average diameter, Inches	Average age, Years	Average rate of growth, Rings per inch	Density (Oven-dry wt. and green volume), Lb. per cu. ft.
2756	White ash..	7.5	76	19.8	32.5
2755	Eastern white pine	7.9	35	9.1	19.2
2757	Red maple..	5.6	41	14.9	32.3
2758	American beech	6.3	51	16.2	34.0
2761	Yellow birch	7.2	47	12.9	33.8

The samples of pulp were screened

[1] This investigation was conducted with funds provided under the Research and Marketing Act.

[2] Maintained at Madison 5, Wis., in cooperation with the University of Wisconsin.

[3] The wood was supplied by the International Paper Company, Research Division, Glens Falls, New York.

Table II
Groundwood Pulping of Eastern White Pine, Yellow Birch, Red Maple, American Beech, and White Ash

Grinder run No.	Wood	Grinding data[1]				Properties of pulp suspension					Properties of pulp test sheets[2]				
		Pressure of wood on stone[3]	Grinding rate per 24 hours (moisture-free wood)	Power input	Energy consumed per ton (moisture-free wood)	Freeness: Schopper-Riegler	Freeness: Canadian Standard	Screen analysis: Retained on 24-mesh	Screen analysis: Passing 150-mesh	Fiber length index	Bursting strength (25x40-500)	Tearing strength (25x40-500)	Tensile strength	Density	Brightness
	Percent	Lb. per sq. in.	Tons	Hp.	Hp.-days	Cc.	Cc.	Percent	Percent		Pts. per lb. per ream	Gm. per lb. per ream	Lb. per sq. in.	Lb. per in. width	Gm. per cc.	Percent
Eastern white pine															
729	52.3	15	0.72	54	76	352	107	18.1	41.8	0.099	0.28	0.78	1716	25.8	0.43	56.1
730	51.8	20	1.33	75	57	323	110	16.1	49.2	.088	.21	.55	1416	22.4	.41	56.1
727	52.8	25	1.62	95	59	363	238	16.8	36.7	.106	.17	.39	1084	17.9	.39	63.5
Yellow birch															
732	77.5	15	.70	58	82	280	123	.2	82.4	.059	.10	.16	634	10.0	.40	48.4
731	77.0	20	1.19	75	68	348	165	.2	81.9	.059	.08	.11	618	9.7	.40	47.6
728	77.3	25	1.46	85	59	390	125	.5	78.2	.061	.07	.15	597	9.0	.42	49.7
Red maple															
735	81.0	15	.60	51	86	253	147	0	76.8	.061	.16	.28	1432	19.8	.47	51.0
734	80.0	20	.87	65	76	270	137	0	77.8	.061	.11	.23	992	15.7	.41	50.3
736	77.8	25	1.53	81	53	307	123	0	79.2	.060	.11	.21	946	13.8	.44	49.4
American beech															
737	84.0	15	.59	47	79	300	155	0	84.7	.058	.05	.12	582	8.2	.45	45.8
744	78.0	20	.91	62	68	363	140	0	76.0	.057	.06	.09	513	6.8	.46	48.1
741	79.0	25	1.35	76	57	375	143	0	84.2	.053	.02	.09	500	4.6	.41	45.4
White ash															
748	78.5	15	1.03	62	60	320	213				.08	.26	715	11.6	.41	57.2
Mixture of 30 percent each of yellow birch and red maple, 15 percent each of paper birch and sugar maple, and 5 percent each of white ash and beech, by volume															
740	77.0	15	.54	47	89	268	115	0	77.5	.061	.11	.22	1020	15.3	.43	52.5
725		20	.74	55	75	307	92	0	77.9	.061	.10	.13	784	12.5	.42	54.5
739	77.0	25	1.32	80	61	355	110	.5	77.0	.062	.07	.18	676	10.1	.43	50.2
Mixture of 50 percent white pine and 50 percent mixed hardwoods (proportions as above) by volume															
760		15	.70	59	78	327	75	4.2	63.4	.071	.17	.41	1093	17.2	.41	51.1
759		20	.96	67	70	340	70	3.9	60.6	.074	.15	.42	899	14.9	.40	51.0
761		25	1.28	82	66	360	78	3.5	66.0	.068	.11	.31	797	14.2	.40	49.9
(5)		15				328	72	7.1	57.9	.077	.19	.43	1164	18.3	.41	52.5

[1] An Alundum abrasive pulpstone (38A90-L10VP) was used. It had been dressed with 10-cut, 1-1/2-inch lead, spiral, and 14-point diamond burrs and had about 40 cumulative hours of service since burring when this work was started. A peripheral speed of 3,469 feet per minute was used with three pockets in use simultaneously. Pit temperature was 165° F. and stone immersion was 9 inches. By adjusting the shower water temperature the pit consistency was maintained at about 4 ± 1.5 percent.

[2] Basis weight of test sheets, 115 pounds per ream.

[3] Actual thrust of the pressure foot (determined by calibration of the cylinder pressure) divided by the area represented by the product of the pocket width and wood length.

[4] Per square foot of wood-stone contact area.

[5] A mixture of equal parts by wright of pulps from run 729 and run 740.

through an 0.008-inch slotted plate of a diaphragm-type screen, and dewatered on a suction mold. Pulp test sheets were made on a basis of about 115 pounds per standard ream (500 sheets each 25 by 40 inches), and were tested by the Technical Association of Pulp and Paper Industry stand methods. The screen analysis of the pulps was made with the Appleton selective screen.

Grinder Experiments: Grinder runs were made at three different grinding pressures (15, 20, and 25 pounds per square inch) on each of the following species and mixtures: white pine; yellow birch; red maple; beech; a mixture of hardwoods consisting of 30 percent each of paper birch and red maple, 15 percent each of yellow birch and sugar maple, and 5 percent each of ash and beech, by volume; and a mixture consisting of 50 percent white pine and 50 percent mixed hardwoods of the above composition. One grinder run at a pressure of 15 pounds per square inch was made on white ash. Since groundwood pulping experiments had been made in a previous study on paper birch and sugar maple,[4] experiments on these individual species were not included.

Discussion of Results

Eastern White Pine: The groundwood pulps produced from the white pine were about equal to or higher in strength than the average of commercial newsprint pulps with the energy consumption ranging from 57 to 76 horsepower-days per ton. They were, however, about 20 percent lower in strength than that of experimental spruce pulps of equal freeness and energy consumption.

The white pine pulp freenesses were higher, in general, than those of pulps from the individual hardwoods or from the mixtures. This may have been due at least partly to the considerably higher moisture content of the pine. The brightness of pulp from the green, unstained pine (run 727) was good (63.5 percent), but that from comparable batches of the same wood after it had been stored in covered boxes for about 4 weeks (runs 729 and 730) was appreciably darker (56.1 percent). This shows that this wood stored under certain conditions will discolor sufficiently in a short period of time to affect materially the color of the groundwood pulp that can be made from it and thereby reduce its desirability for groundwood pulp. In bleaching experiments on Eastern white pine groundwood made at the Forest Products Laboratory, an increase in brightness of about 6 percentage points was obtained with a single-stage hypochlorite bleach using 15 percent of available chlorine as calcium hypochlorite. No improvement was obtained with 10 percent of available chlorine. With 2 percent of sodium peroxide an increase of 4.5 percentage points was obtained. These results indicated that the white pine groundwood, in common with other softwood groundwood pulps, does not, by the known procedures respond well to single-stage hypochlorite bleaching.[6]

Hardwoods: The pulps from yellow birch, red maple, beech, and white ash were all short-fibered, as indicated by the following range of values obtained in the screen analysis: 0 to 0.5 percent retained on the 24-mesh screen, 0.2 to 1.3 percent on the 42-mesh screen, and from 76.8 to 86.0 percent passing the 150-mesh screen. The energy consumption was reasonable, ranging from 53 to 89 horsepower-days per ton, but the strengths of all the hardwood pulps were low compared to that obtained from softwood species commonly used. Strongest of the hardwood pulps was made from red maple; weakest from beech, with yellow birch and white ash pulps being intermediate.

[4] "The Grinding of Hardwoods: Experiments on Eastern Cottonwood, Yellow Poplar, Sugar Maple, Black Tupelo, White Ash, Paper Birch, and Sweetgum," by Axel Hyttinen and E. R. Schafer. TAPPI Journal 32(No.2)79-85, Febr. 1949; Pulp & Paper Mag. Canada 50(No.1)82-90, Jan. 1949.

[6] "Bleaching Groundwood Pulps with Hypochlorites," by R. M. Kinsburg, F. A. Simmonds, and E. S. Lewis. FPL Rept. No. R1736. 1949.

At a grinding pressure of 15 pounds per square inch on a comparable stone surface, the grinding rate for the paper birch obtained in the previous study[4] was about the same but the energy consumption and strength were lower and the freeness higher than those obtained for the yellow birch pulp in this study. Results with sugar maple[4] and red maple followed the same trend. The average brightness of the paper birch and sugar maple pulps was 54 and 44 percent, respectively. The brightness of the hardwood pulps produced in this study was in general quite low, with the exception of white ash, which had a brightness of about 57 percent.

The similarity of the grinding characteristics of the six hardwoods indicated that they could be ground in mixture. When this was done, the pulps produced (runs *728*, *739*, and *740*, table *2*) were short fibered and intermediate in strength between the strongest and weakest of pulps produced from the individual woods under the same conditions of grinding. The low brightness of the unbleached mixed hardwood pulp would permit it being used only in small proportions in printing or similar papers. It was found, however, that the pulp responded well to a single-stage hypochlorite bleaching treatment.[6] The brightness was raised from about 55 percent to about 77 percent with the equivalent of 10 percent of available chlorine based on the weight of pulp. Further, the strength characteristics were much improved by the bleaching treatment.

White Pine — Hardwood Mixture: When ground under the same conditions, the white pine produced pulps of greater fiber length, higher freeness and better strength than the hardwoods. The grinding rate was somewhat higher and slightly less energy was consumed in grinding the pine than the mixed hardwoods. The grinding characteristics of a mixture consisting of equal parts by volume of white pine and the mixed hardwoods (runs *759*, *760*, and *761*) were intermediate between those of the pine and those of the mixed hardwoods. In most cases, however, the grinding characteristics were closer to those of the hardwoods than those of the pine. The pulp properties were also intermediate and, in the majority of cases, closer to the properties of the hardwood pulps than to those of the pine. These results appear reasonable, since the pine though constituting 50 percent of the mixture by volume, because of its lower density, comprised only about *37* percent of it by weight.

The properties of a pulp mixture prepared by mixing equal parts by weight of pine pulp (from run *729*) and the mixed hardwood pulp (from run *740*) approached the calculated average values of the two pulps more closely than did the pulp prepared by grinding the woods together in equal parts by volume (run *760*). The bursting strength equaled, and the tensile strength exceeded, that of an average commercial newsprint pulp, although the tearing strength was somewhat lower.

The brightness of the pine-hardwood pulps was low. This could be increased by bleaching. Since the pine pulp did not respond well to hypochlorite bleaching, it appears that it would be more economical to bleach the separately ground hardwood pulp and then mix it with the unbleached pine pulp.[6]

Conclusions

The data obtained in this study indicate that Eastern white pine is suitable for producing groundwood pulp with strength and brightness satisfactory for its use in printing and other papers. The strength of the groundwoods made from the hardwoods indicates that their principal use would be as filler stocks. They could probably be used in small proportions in the unbleached condition, but they would need to be bleached for use in larger amounts in white papers. The results indicate that (1) the hardwoods are similar enough in their grinding characteristics to permit their being ground together, and (2) groundwood pulps with strength equal to that of average newsprint pulp, although with lower brightness, can be produced by grinding mixtures of Eastern white pine and the hardwoods up to about 35 percent of hardwoods by volume.

Paper Stocks for the Blueprint Industry[1]

By

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The "blueprint" industry is the accepted, but rather loose, trade designation for what might better be termed the reproduction industry. It overlaps and supplements printing and the graphic arts in one direction, and photography in another. Its high-speed, quantity production end is exemplified by the offset press, many blue printers having strayed far enough from the fold to profitably include photo-offset prints in their wares. Its low-speed, custom production end is embodied in valuable oil field maps and photo-murals painstakingly made in photographic dark-rooms; and many blue printers have also added micro-film to their lines.

Functionally, the industry's principal activity lies in producing a limited number of copies of engineers', draftsmen's and architects' drawings, plans, maps, sketches and specifications by means of relatively slow-speed photographic media of comparatively low actinic sensitivity. This is the field with which this article will deal. The papers used in this, the true blueprinter's domain, are Tracing, Blueprint, and Brown print papers (negative, sepia or Van Dyke papers) as well as Diazotype papers, otherwise known as direct positive papers.

The juxtaposition of the tracing papers with respect to any one of the other three papers during the "printing," i.e. exposing step, is indicated in Figure 1.

Tracing Papers

Tracing papers constitute the "originals" of the blue print industry, i.e. blue prints, brown prints and diazotype prints are made from drawings, etc., made on tracing papers. Inasmuch as the prints cannot be any better than the originals from which they are made, it behooves the engineer, draftsman or architect to use as good a tracing paper, and to provide as good a tracing or drawing, as the circumstances warrant. Alas for the poor blue-printer, this is more often the exception than the rule! He is given a dog-eared drawing in 9H pencil on a yellow, semi-opaque paper stock, and is expected to produce as good a print from it as would be possible only from a drawing with completely opaque lines on a completely transparent base. So let's examine what constitutes a good drawing or tracing on a good tracing paper.

Consider a sheet of tracing paper fastened to a drawing board by means of thumb tacks or tape, with a drafts-

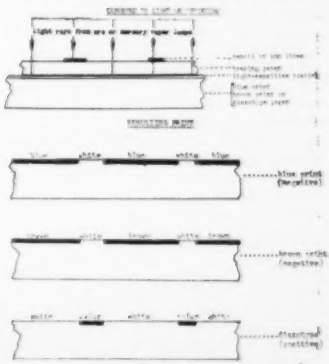


Figure 1.

[1] This article is in two parts. Part II will be published in the Sept. 29, issue.

man bending intently over it. Despite the fact that softer grades of pencil leave more graphite on the paper and hence produce more opaque lines, most draftsmen prefer the harder grades of pencils because sharper and finer lines can be drawn with them, and because the lines do not smudge as readily under the T-square, triangles and scales, not to mention their own sweaty arms and hands. So the tracing paper has to have sufficient surface roughness or *tooth* to abrade enough graphite off the pencil point to give a continuous opaque line. Strictly speaking, the line is never continuous, but consists of a chain of graphite particles with blank spaces between. But the fewer of these blank spaces the beeter, as in making prints from the tracing, the light sneaks through these spaces and weakens the line of the image produced on the blue print, brown print or diazotype paper.

Now our friend the draftsman makes a mistake (as even the best of them will), or the engineering department or the client wishes to make a change, so an erasure is necessary. The purveyor of the tracing paper may recommend the use of, let us say, a certain suede eraser for his paper, but the draftsman will use anything from Artgum or Ruby or Emerald erasers to an erasing knife, or an electric erasing machine armed with any of several grades of erasers. In any event, the tracing paper must be capable of withstanding, not just one, but several erasures in the same spot, leaving no "ghost" which will reproduce in the print, and still permitting the draftsman to re-draw clearly and sharply in the same spot.

Erasing quality is a difficult enough requirement in the case of pencil drawings, but is obviously much more so with ink drawings, which are still made in considerable quantity. With ink, the surface of the paper must absorb or accept the ink readily, without repelling on the one hand or feathering on the other, i.e. it must take the ink exactly as the ruling or lettering pen delivers it. The ink must penetrate into the paper surface enough so that it cannot flake off after drying; but it must not penetrate so deeply that it cannot be erased mechanically by any of the means described above. Finally, the paper must not pucker due to the wetting action of the ink, a characteristic which becomes even more important if the draftsman elects to use one of the liquid ink removers on the market. Puckering, which may also be produced by sweaty hands or arms, destroys the contact between the tracing paper and the blue print or other sensitized paper during exposure, so that clear, sharp prints are not produced.

Thus, the mill making tracing papers has to maintain a careful balance in surface or tub sizing and calendering, in order to provide a tough, hard abrasive surface which will take ink or pencil satisfactory, which will erase well, and which will not pucker.

Now comes 5 o'clock of a humid, muggy rainy day, and the draftsman covers his drawing board and leaves for home. Overnight the weather changes to fine, clear and dry. Despite such changes in atmospheric conditions, the tracing paper (a first cousin of which is used in inexpensive hygrometers to actually respond to humidity changes) must not tug at its restraining thumb tacks or tape, shrink or stretch, pucker or curl. These effects should cause dimensional and scalar changes, and would impair contact with the sensitized paper during printing.

The tracing, drawing or original, as it is indiscriminately called, is finally finished, and from it blue prints, brown prints or diazotype prints are to be made. Let us assume that 12 blueprints of it are wanted. The conventional blueprinting machines differ in detail, but in all of them the printing or exposing consists of placing the tracing on top of the blue print paper as shown in the diagram, and moving them together and in close contact with each other past a bank of arc lamps or mercury vapor tubes. The light penetrates through the tracing paper and acts upon the sensitizing chemical layer on the blue print paper, except where the pencil or ink lines of the drawing block its passage. When exposure is complete, the tracing is separated from the exposed blue print paper by a mechanical scraper riding on the web of blue print paper, by vacuum, or some other means, and is returned to the feeding end of the blue printing machine for a second passage to make a second blue print, and so forth until 12 blue prints have been made. During printing, the tracing is inevitably manhandled to some extent by even the most careful blue-printers because the web of blue print paper is traveling continuously past the printing lights at a good clip; and the operator has to keep picking off the series of tracings as they emerge from the printing section and feed them back onto the blue print paper squarely and edge to edge so as not to waste any blue print paper. Folding and dog-earing the tracing are bad enough, as the creases will reproduce on subsequent prints after they are flattened out. But the principal danger lies in tearing a tracing on which perhaps several thousand dollars of engineering and drafting skill have been expended. Consequently, the most important feature in the physical strength of tracing papers is high tearing resistance.

Now, in the printing machine, the tracing paper is subjected to intense actinic light and to high temperature, but it must not curl, shrink, stretch or become brittle as a result. Furthermore, it must not become yellow in tint, because yellow blocks out the printing light very effectively, making the tracing more opaque to exposure and hence necessitating longer time to produce good prints. This yellowing effect as the result of heat and light is due to chemical reactions within the paper, catalyzed and accelerated by these two exterior agencies.

This brings us to the fundamental difference between tracing papers and the other papers used in the blue print industry, namely the transparency or, more correctly, the translucency of tracing papers. Obviously, in the use from which they derive their name, which is in tracing from drawings or prints, tracing papers must be sufficiently transparent or translucent so that the drawing or print being traced is visible, or they are useless.

However, *printing transparency*, or permeability to light in making blue prints, brown prints and diazotype prints, is not so easily discernible to the eye. Indeed, quite often a paper which appears more translucent to the eye than another, may actually have lower printing transparency than the latter. The most common cause of this is a creamy or yellowish tint which effectively impedes the passage of the actinic rays of the printing machine. Hence, a good tracing paper should be colorless or bluish in tint.

Secondly, for transparency, a good tracing paper must have a uniform formation, as a wild formation or an occasional occlusion of fibers will be very evident in the prints made from the paper. The beating and other preparation of the fibers required to attain this formation hydrates the fibers to some extent, thereby contributing to the transparency of the sheet. As a general rule, the best furnish for a tracing paper consists of all one type of fiber. To achieve strength in addition to uniformity of formation and hydrolysis, practically all high grade tracing paper stocks are 100 percent rag or cotton linters. Furthermore, if rags are used, they are preferably the best grades available, such as white shirt cuttings.

Thirdly, thinness and light weight also contribute to transparency, but because of other considerations, mainly that of strength, tracing papers are rarely made in lighter weights than 12 pounds (basis: 500—17″ x 22″) and are generally in the 14 to 18 pound range. The important thing is that the caliper be uniform, as thicker areas will naturally be less transparent than thinner areas.

Finally, tracing papers must be clean and free from dirt specks, slime spots, etc., as these reproduce with disconcerting prominence on prints. It has actually happened in the author's experience that a dirt speck in tracing paper has produced a spot on a print made from the tracing paper, and this spot was mistaken for a decimal point!

Up to now, we have been talking about *natural* tracing papers, by which we mean tracing papers which are used just as they come from the paper mill, in the making of tracings and drawings. Even the thinnest, lightest, most uniform natural tracing papers are not translucent enough to produce blue prints and other prints at high speed, for the simple reason that it takes the

printing lights too long to "burn through them." So years ago blue printers began to produce "prepared" tracing papers, sometimes erroneously called vellums or parchments, which are natural tracing papers impregnated with substances designed to make them more translucent. It's a rare blue printer who doesn't have his own highly secret transparentizing formula; or at least had one until he learned to his sorrow that the resultant "prepared" tracing paper repelled ink, and in some instances, even pencil; did not erase well; picked up dust very readily; lost its transparentizing agent or agents by evaporation or by offsetting onto anything absorbent with which the paper came in contact; softened the varnish on scales and tables; adhered tenaciously to the hot glass of printing machines; turned yellow and brittle; and so on ad infinitum.

These transparentizing formulae comprised every imaginable permutation and combination of substances like kerosene, mineral oil, balsam, castor oil, peanut oil, natural gums and resins, rosin derivatives, sorbitol, dibutyl phthalate, tricresyl phosphate, sucrose octoacetate, to mention just a few. Some of these, notably mineral oil, are still in use. Solvents used to compound these concoctions were toluol, xylol, various alcohols, acetone, carbon tetrachloride, etc., of which the last-named was and still is the most popular because it is non-inflammable.

With the advent of synthetic resins, prepared tracing papers received a new impetus because some of these new materials were devoid of most of the inadequacies of the earlier transparentizing agents. One widely heralded prepared tracing paper after another appeared on the market, only to be withdrawn when use in the field revealed unforeseen "bugs." Gradually, however, some of them were improved sufficiently to make them commercially acceptable. Strangely enough, the best prepared tracing papers now on the market embody either or both mineral oil (the earliest really successful transparentizer), and one or more of the comparatively recent synthetics.

Paper mills have from the outset been the "innocent bystander" victims of the prepared tracing paper frenzy, because the average blue print coater who was trying to make prepared tracing paper never fully took the paper mill into his confidence as to how he was trying to transparentize the mill's product. Hugging his secret transparentizing formula and method to his chest, the blue printer often simply told the mill that "the last shipment of paper was no good for tracing paper." However, little by little, and mostly by patient trial and error, the mills making tracing paper base produced the very good paper stocks which form the basis of the excellent prepared tracing papers which aer now available.

In some respects, the specifications for a paper stock for prepared tracing paper are the same as for natural tracing paper, only more drastic. In other respects, prepared tracing papers reacted to the advantage of the paper mill. In stil other factors introduced by prepared tracing papers, there is little the mill can do, as they reside in the transparentizing formula and method.

Thus, as to pencil "tooth," the stock for prepared tracing paper usually requires a lower finish, i.e. more tooth, than for natural tracing paper because the transparentizing agents have a tendency to reduce the surface roughness of the paper stock. In physical strength, paper stocks which are to be transparentized should be stronger than natural tracing paper stocks because the transparentizing, particularly the action of the residuum of carbon tetrachloride, reduces the physical strength of the paper. Uniform formation and freedom from dirt and spots is more important in a prepared tracing paper stock than in a natural one, because the higher translucency of the former makes heterogeneous formation and foreign particles stand out like a sore thumb in contrast. Finally, the use of all one type of fiber, and of the same grade within this type, is more important with prepared tracing papers, because different fibers absorb and retain the transparentizing substances differently.

In general, prepared tracing papers are less susceptible to changes in atmospheric humidity than natural tracing papers, and hence the mill does not have to worry so much about puckering, shrinking and stretching. Furthermore, the mill is not called upon to make extremely thin, light-weight papers, because transparentizing makes possible a more translucent sheet out of considerably thicker and heavier stock than an untransparentized paper. Finally, the mill is often relieved of some responsibility as to color, because many prepared tracing paper manufacturers embody dyes in their transparentizing solutions to achieve the desired tint in the final product. Usually this is done to supplement the dye put into the beater at the mill rather than to supplant it completely. This is necessary because the transparentizing process greatly accentuates the color of paper.

With regard to ink-taking, if the natural tracing paper takes ink satisfactorily, and the prepared tracing paper made therefrom does not, the onus is on the converter, as it indicates that the transparentizing process and/or substances are causing repelling or spreading of the ink. The same is true for erasing qualities, as the transparentizing agents and solvents often impair the erasing properties of a sheet which was satisfactory in this respect before transparentizing. Finally, the impregnants often cause the prepared tracing paper to become yellowish or creamy in tint in time, either by oxidative or other reactions inherent in themselves, or by reaction with components of the paper stock. If the former is the case, there is nothing the mill can do about it; if the latter, the mill can help only if the converter divulges his transparentizing formula and procedure.

The ultimate in a tracing paper is one in which the transparency or translucency is incorporated in the paper during manufacture at the mill. Some work has been done in this direction, but the complete job has yet to be done, and there is a marvelous opportunity for the one who first produces a tracing paper of this type. In its simplest form, why not pass the paper web through a transparentizing bath after the first dryers and before the tub or surface size? Going one step further, why not impregnate the paper at this intermediate point with a substance which will react with the formaldehyde or an additive in the tub sizing to produce a transparentizing effect? Would it not be possible to transparentize the fiber in the beater or even prior to that? It seems illogical to make a finished sheet of paper and then impregnate it with substances to achieve translucency! Eventually someone is going to do it where it should be done, in the paper mill.

Blue Print Papers

Blue print papers are sensitized or "coated," as the industry calls it, with two types of blue print solutions. The older or yellow type (so called because the coated face of the paper is yellow in color before exposure or "printing") is strongly acid, generally due to oxalic, citric or phosphoric acids. The newer or blue type (the coated face of the paper is blue or blue-green) is slightly alkaline, generally due to borax and carbonates. As we are not concerned in this article with coating techniques and formulae, suffice it to say that the coating is usually accomplished by a series of rolls which apply an excess of solution to one face of the paper, normally the felt side, the excess being removed by scrapers. Thereafter, the paper is dried at temperatures up to 200° F., and is then ready for *printing*.

In making prints, the paper is exposed, as indicated in the diagram, to intense light from arc or mercury vapor lamps, through the tracing or drawing original. Next it is thoroughly washed with water by spray and immersion in order to remove residual unexposed sensitizing chemicals and undesirable light-reaction products such as oxalates and citrates; and to stimulate the reactions among the image-producing components. Then it is treated with an oxidizing solution, usually a bichromate or peroxide, to complete the reactions. Thereafter it is again thoroughly washed with water to remove the excess oxidizing agent and other extraneous substances; and finally it is dried at high temperature. The finished prints are cut out and trimmed by hand with large shears as they emerge from the printing machine. All of these steps, except the final trimming, are carried out in sequence in

machines through which the blue print paper travels in a continuous web fed from the roll of unexposed paper.

Chemically, blue print paper stocks should be non-reactive with respect to the chemicals of the blue print coating. This involves principally guarding against the presence of reducing substances in the rosin beater sizing and in the glue and/or starch tub sizing. As the beater sizing is generally set with alum buffered with sodium aluminate, the rosin itself is the component which must be carefully selected. Similarly, the glue or starch must be as free from reducing agents as possible; and particular care must be taken that the paper is properly seasoned before coating, so that no formaldehyde, the customary hardener in the tub sizing, remains in the sheet.

As to fiber content, the industry has gradually been weaned from the concept prevalent twenty years or so ago, that high grade blue print paper had to be 100% rag. The standard, if one can call it that, is now 50% rag or cotton linters; and appreciable quantities of 25% rag or cotton linters, and of all-wood papers are also used. There is no good reason why an excellent blue print sheet cannot be made with an all-wood furnish; and there are good reasons why such a sheet should actually be better than a rag content sheet. Here again, as with tracing papers, is an opportunity for paper mills which no one has as yet exploited.

Before the last war, 24 pound (basis: 500—17″ x 22″) was the weight of blue print paper principally used. However, the war forced blue printers to use lighter weight sheets, and, buying by the pound and selling by the yard as they do, 17 and 20½ pound stocks are still being used.

In physical strength, the most important requisite of a blue print paper stock is high wet tensile strength. This is necessitated by the fact that the paper is thoroughly wetted on one face with an aqueous solution during the coating operation; but much more so by the fact that it is literally soaked in water during the printing operation; and in both operations it is under heavy tension throughout. The second important factor in physical strength is high folding endurance, because a large proportion of blue prints are constantly alternately folded up for filing, mailing, fitting into an engineer's briefcase or a telephone linesman's pocket, etc., and then unfolded for use. Good tearing resistance is a third important quality, for obvious reasons. Finally comes an unusual characteristic which is difficult to define and which is somewhat incompatible with the other three, namely ease of trimming. Blue print trimmers are quite adept at cutting the finished prints out of the roll stock as it emerges from the printing machine, and they have to do it with a few deft, continuous strokes in order to keep pace with the machine. If the shears snag or catch in the paper, torn prints or, at best, crooked edges result. The trimmer wants to be able to take a first snip in the paper and then simply and smoothly run his shears through the paper along the desired line.

Blue print paper must not curl or pucker unduly when wetted during coating and printing, because these effects give rise to non-uniform coating with the light-sensitive blue print chemicals; impair contact with the tracing during printing; and make satisfactory trimming and filing more difficult. Also, its surface must not scuff or break down under the friction of the coating rollers, scrapers, etc., over which it is dragged when wet during coating and printing. This is commonly termed "good wet rub."

Now let's consider the blue print itself—the actual image on the paper for which we go to all of this trouble. An excellent blueprint should have clear white lines, figures and letters standing out in sharp contrast against a uniform, deep blue background. To accomplish this, first of all the blue print paper surface must absorb the sensitizing or coating solution uniformly in order to produce a uniform blue color in the final print. Secondly, this uniform absorption must be neither too deep nor too shallow. If too deep, the paper will be slower printing, i.e. it will take longer for the printing lights to penetrate down to the buried chemicals; in fact, the rays may never reach some of them, so that they will be washed out after the exposure and actually wasted. Also, the lines will tend to be bluish rather than white. After all, what one sees in a blue print one sees by light reflected from the print to the eyes, and there is no point in burying color so deeply into the sheet that it contributes nothing to the impact on the eyes. Conversely, if the absorption of the sensitizing chemicals is too shallow, the paper will be faster printing, but the resultant blue color will be pale and anemic, providing inadequate contrast to the white lines, figures and letters. Thirdly, the absorption of the light-sensitive coating must be not only to the proper depth, and uniform per unit area, but it must be so for every yard in the mill roll, for every mill roll in the run, and from one mill run to the next. Otherwise, the blue print coater, who markets his papers in a number of different "speeds," cannot guarantee to his customers even reasonable uniformity in printing qualities from one fifty-yard roll to the next, or from one shipment to the next. True enough, he can adjust his coating solutions and coating machines to apply more or less chemical per unit area to conform with the absorbency of the paper, but the less of this he has to do, the more satisfied he will be with the mill as his source of supply for raw paper.

Assuming that the mill maintains adequate control of its runs from start to finish to insure a uniform blue print paper base stock, the largest single cause of variation, not only in absorbency but also in physical strength and other characteristics of blue print papers, is probably variable age of the paper at the time of coating. As is more or less true of all paper stocks, blue print paper stock improves quite rapidly during the first two or three months after it is made, thereafter approaching an equilibrium condition. The actual progress of this "improving with age" depends on the paper itself and on the conditions of temperature, humidity, etc. under which it is stored. However, it is safe to say that blue print paper stock should be seasoned two or three months before coating.

Inasmuch as one sees the final blue print by reflected light, the paper stock should be as opaque as possible. For this reason, despite the added cost, loading with titanium oxide, clays and similar materials is quite prevalent. Also, blue print paper stock should be yellowish or pinkish in tint to produce maximum visual contrast between the "white" lines, letters and figures of the image and the blue background. Actually, in the finished blue print, these lines, letters and figures are the paper stock itself, undyed by the blue print chemicals, and showing through the surrounding dyed areas. In practice, the white is usually slightly tinted with blue because of excessive penetration of the coating chemicals, over-exposure during printing, weak lines in the tracing, bleeding of the blue out of the background, etc. Yellow to red being the complementary colors of purple-blue to blue, a yellowish or pinkish paper stock masks this faint blue tint in the lines, letters and figures, and sets off the image to best advantage.

The importance of both the opacity and the color of the blue print paper stock becomes more apparent in positive blue prints, or "blue line prints" (made from negative originals, i.e. translucent lines, opaque background), than it is in ordinary blue prints (made from positive originals, i.e., opaque lines, translucent background). In these prints, also, with their blue lines on a white background, another factor in the paper stock becomes important, namely the presence of dirt specks, slime spots, etc. These are covered by the blue color in ordinary negative blue prints, but look bad in positive blue line prints.

In summation, it might be said that the ideal paper stock or base paper for blue print should be a "sandwich." The foundation should be impervious to penetration of the blue print coating solution; high in wet tensile, fold and tear; capable of smooth slitting in trimming; perfectly opaque; and completely flat, with smooth parallel faces. The second or coating layer should be of uniform thickness and of the right depth to produce a rich deep blue at an acceptable printing speed; completely and uniformly receptive to the blue print coating solution and chemically inert with respect to it; yellow-pink in tint; free from foreign matter; and possessing good wet rub. Perhaps a laminated sheet *is* the real answer!

Patent Abstracts

● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information to our readers are included herein.***

2,466,145 — Stabilized Sorel Cement and Method of Making. Leslie W. Austin, San Jose, and Daniel Rhodes, Palo Alto, Calif., assignors to The Permanente Metals Corporation, Oakland, Calif. Filed May 16, 1945—Issued April 5, 1949.

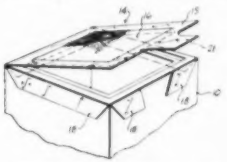
Process for preparing magnesium oxychloride cement which comprises admixing with magnesium oxide at least 20% by weight, based on the amount of MgO, of finely divided amorphous silica obtained by cooling, in contact with an oxygen-yielding gas, gaseous silica-yielding material contained in vapors issuing from a zone wherein silica is reduced, said silica having a major proportion of particles less than about one micron in size, and treating said admixture with aqueous magnesium chloride solution.

2,465,472—Stabilized Ethyl Cellulose Composition. Walter D. Paist, Orange, N. J., assignor of Celanese Corporation of America, a corporation of Delaware. Filed December 21, 1944—Issued March 29, 1949.

A substantially color-stable molding composition resistant to color changes under the action of heat or light, comprising ethyl cellulose, dibutyl phthalate, refined mineral oil and, as color stabilizing agent, citric acid in an amount of from 0.01 to 5% by weight of the ethyl cellulose.

2,465,842—End Closure for Paperboard Containers. Lewis C. Brooks, Milwaukee, Wis., assignor of one-third to Ira Milton Jones, Milwaukee, Wis. Filed March 12, 1945—Issued March 29, 1949

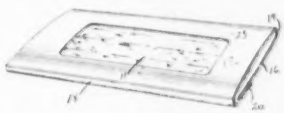
A full opening end closure construction for the mouth of a multiple sided container having rigid side walls comprising: a ledge integral with the side walls of the container and spaced down from the end thereof, said ledge extending entirely around the inner periphery of the mouth of the container; an insert of a size to fit snugly



into the mouth of the container so as to rest on said ledge; a thin flexible sealing sheet adhered to the underside of said insert and projecting beyond the edges of the insert; a repeatedly effective pressure sensitive adhesive on the underside of said sheet by which the marginal portions thereof are removably adhered to the ledge and the wall surfaces defining and adjacent to the mouth of the container said sheet being squeezed between the edges of the insert and the adjacent side wall surfaces, and the repeatedly effective pressure sensitive characteristics of the adhesive on the underside of the sealing sheet enabling reclosing of the container mouth after initial opening; side flnages on said sealing sheet folded over the adjacent portions of the sides of the container; and repeatedly effective pressure sensitive adhesive on the undersides of said flanges by which they are adhered to the side walls, said thin sealing sheet being weakened at the junctures of the side flanges to the sheet proper along all but one of the sides, but with its line of weakness at the juncture of a flange opposite said one side interrupted for a distance and with the line of weakening turned outwardly to the edge of the flange to define a pull tab so that lifting of said tab and the application of force thereon tears the sealing sheet along its lines of weakness and leaves the closure hinged to the side of the container opposite the pull tab.

2,465,841—Package. John H. Bonini, Appleton, Wis., assignor to Marathon Corporation, Rothschild, Wis. Filed March 15, 1946—Issued March 29, 1949.

A container comprising a relatively rigid foldable rectangular blank scored to provide bottom, top, front, rear and bottom engaging panels, said therein for engagement with said slot, a flexible bottom panel having a slot therein, said bottom engaging panel having locking means formed lining sheet having a greater width than said blank covering said bottom, top, front and rear



panels and a portion only of said bottom engaging panel, said lining sheet being adhered to said blank by relatively narrow adhesive lines extending along the free marginal edges of said bottom, top, front and rear panels, said slot being spaced inwardly of the said lines of adhesive on said bottom panel, whereby said locking means may engage said slot and pass freely between the flexible lining sheet and the bottom panel, said lining sheet having its longitudinal edges extending freely beyond the edges of said blank, one of its transverse edges extending freely beyond one end of said blank and the other transverse edge terminating adjacent the score line of the bottom engaging panel and within the area of said bottom engaging panel and short of said locking means.

2,465,858—Bonded Fibrous Shape and Method of Making Same. John H. Ferguson, Somerville, N. J., assignor to Johns-Manville Corporation, New York, N. Y. Filed October 9, 1944—Issued March 29, 1949.

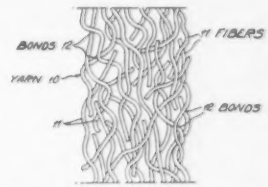
A heat and wear resistant shape comprising a mixture of mineral fibers and friction particles bonded by a heat hardened and cured phenol-aldehyde resin, each friction particle comprising mineral filler particles suspended in a tough and resilient, matrix of heat cured polymerized resorcinol-coupled linseed oil, and said friction particles being present in the shape in major proportions sufficient to render the shape flexible and resilient.

2,465,914—Stabilized Ethyl Cellulose —William J. Myles, New York, N. Y., assignor to Celanese Corporation of America, a corporation of Delaware. Filed November 30, 1945—Issued March 29, 1949.

A substantially water-free, color-stable composition of matter resistant to color changes under the action of heat and light, consisting essentially of ethyl cellulose having incorporated therewith as color-stabilizing agent, a member of the group consisting of sulfur dioxide, unstable organic sulfones, yielding sulfur dioxide and organic esters of sulfurous acid in an amount at most 5% based on the weight of the ethyl cellulose.

2,465,996—Yarn and Fabric. Godfrey Bloch, New York, N. Y. Filed October 4, 1946—Issued April 5, 1949.

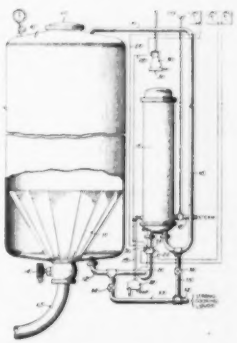
As a substitute for wool, a product composed of purposely distorted artificial filamentary fibers



spun into yarn form and having multiple points of contact, the distortion of the fibers forming myriad air pockets, said fibers being fixed together at points of intersection to maintain the fibers in their original positions and prevent relative movement thereof thereby retaining said air pockets in the yarn.

2,466,290—Method of Digesting Pulp by the Alkaline Process. Sidney D. Wells, Combined Locks, Wis., assignor to The Institute of Paper Chemistry, a corporation of Wisconsin. Filed March 15, 1944—Issue April 5, 1949.

The improved process of digesting cellulosiferous material in the production of chemical pulp suitable for paper making and other purposes, which consists in: (1) circulating alkaline

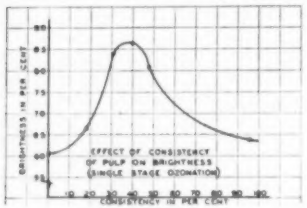


cooking liquor continuously in a closed circuit through a batch of pulp in a digester; (2) adding supplemental alkali to the circulating stream of cooking liquor substantially continuously; (3) continuously reheating the circulating stream of cooking liquor and returning it to the digester; (4) continously and automatically measuring the electrical conductivity of the stream of cooking liquor coming from the digester; and (5) controlling the additional supplemental alkali supply as a function of the measured conductivity of the liquor in the circulating stream; (5) said control being exerted to maintain the conduc-

tivity of said liquor substantially constant at a predetermined value after about the first quarter of the cook.

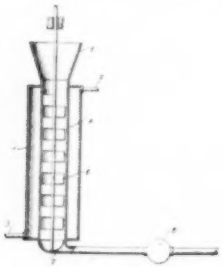
2,466,633—Method of Bleaching Cellulosic Pulp. George J. Brabender and John W. Bard, Wausau, Wis., and James M. Daily, Portland, Oreg., assignors to James M. Daily, Portland, Oreg., Francis L. Daily, Chicago, Ill., and Joseph F. Ryan, McAllen, Tex. Filed May 26, 1948—Issued April 5, 1949.

The method of bleaching cellulosic pulp which comprises the steps of adjusting the moisture content of the pulp to an oven dry consistency between 25 and 55 per cent, adjusting the pH of the pulp within a range of 4 to 7, passing ozone through said pulp and substantially absorbing all said ozone present to yield a bleached pulp having a good permanence of color and low ash content.



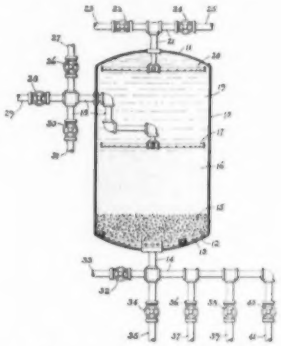
2,466,649—Dissolving Apparatus for The Preparation of Cellulose Solutions. Arie van Halewijn, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N. C. Filed December 4, 1946—Issued April 5, 1949.

An apparatus for dissolving cellulose in a salt solution of the class consisting of alkali metal zincate and stannate solutions, comprising a vertically disposed shell having an inlet port and an outlet port for the passage of cooling material therethrough, a tube of small diameter passing vertically through said shell said tube being centrally through said tube, a pair of groups of agitator vanes attached to said shaft, the vanes of one group lying in a radius 180° away from the vanes of the other group, the component vanes of each group being axially spaced and being staggered with respect to the vanes of the other group in such a way that for the entire length of the group of vanes there is a vane in each horizontal plane, said vanes terminating in closely spaced relation to the inner walls of the tube, and a pump of the positive displacement type attached at the lower end of said tube to effect movement of the material in the tube at a predetermined uniform speed.



2,466,662—Operation of Ion Exchange Beds. Albert B. Mindler, Yardley, Pa., assignor to The Permutit Company, New York, N. Y. Filed April 22, 1947—Issued April 5, 1949.

A cyclic process of treating an aqueous solution having a specific gravity substantially higher than that of water by passage through a bed of ion exchange material which comprises the steps of (*a*) Introducing said solution between the top of said bed and a superimposed stagnant body of water, flowing said solution downwardly through said bed and withdrawing said solution after treatment thereof from the bottom of said bed to a point of use; (*b*) Interrupting said introduction of said solution and introducing water into said body of water without substantial disturbance thereof, so as to expand said body and thereby force solution within said bed downward and from the bottom of said bed to a point of use; (*c*) Reconditioning said bed by a cycle of operations comprising an upward flow of backwash water to a point of disposal and a flow of regenerant solution and rinse water to a point of disposal; (*d*) Introducing said solution at a short distance above the top of said bed and below a stagnant body of water to force rinse water remaining in said bed from the bottom of said bed to a point of disposal; and (*e*) Resuming step (*a*) when the specific gravity of said solution flowing after treatment thereof from the bottom of said bed has risen to a predetermined high value.

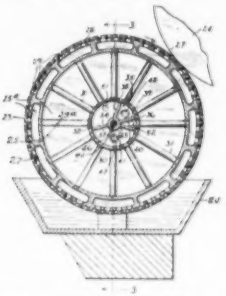


2,466,672—Coating Composition Containing a Fatty Acid Ester as a Gel Stabilizing Agent. Emile E. Habib, Belmont, and David G. Greenlie, Wayland, Mass., assignors to Dewey and Almy Chemical Company, North Cambridge, Mass. Filed May 20, 1947—Issued April 12, 1949.

A coating composition comprising a petroleum wax, a water-insoluble metal soap, and a gel-stabilizing agent selected from the class consisting of fatty acid esters of mono- and di-anhydro-hexahydric alcohols, the fatty acid containing from 12 to 18 carbon atoms, said composition being in the form of a gel.

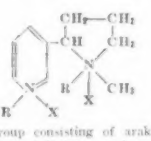
2,466,718 — Coating Apparatus. Robert Lobstein, Chicago, Ill., assignor of one-half to Samuel R. Hunter, Chicago, Ill.; Florence H. Hunter, administratrix of said Samuel R. Hunter, deceased. Filed March 21, 1946—Issued April 12, 1949.

In a paper coating apparatus having a pair of rolls between which a wet web of paper is fed, an applicator roll contacting with one of said rolls, and a pan for containing coating liquor, a rotatable vacuum drum contacting with said applicator roll and having a perforated cylindrical wall and a plurality of chambers opening out through the perforations, said outer cylindrical wall being covered with a porous material, an inner cylinder concentric with the axis of the drum, a plurality of tubes connecting said inner cylinder with said chambers, a plurality of stationary partitions dividing said inner cylinder into individual vacuum and compressed air chambers, the tubes in the part of the drum that is passing through the coating liquor establishing communication between the vacuum chamber and the other chambers with which they are connected and the tubes in the part of the drum which is contacted with the applicator roll establishing communication between the compressed air chamber and the other chambers to which said tubes are connected, a vacuum pipe opening to the vacuum chamber and a compressed air pipe opening to the compressed air chamber, and means for controlling the amount of vacuum to which the vacuum chamber is subjected.



2,466,788 — Fungicidal Nicotinium Salt Compositions. Charles F. Woodward, Abington, Pa., and Frank L. Howard, Kingston, and Harry L. Keil, Wakefield, R. I., and Leopold Weil, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture. Filed December 5, 1945—Issued April 12, 1949.

A fungicidal composition comprising a carrier in which is incorporated a nicotinium salt having the general formula wherein R is a member of the group consisting of arakyl and substituted arakyl, and X is a member of the group consisting of chloride, bromide, iodide, cyanide, thiocyanate, and fatty acid anions having from 2 to 18 carbon atoms.



2,466,770—A Stable Coating Composition and a Process of Making It. Robert T. Hucks, South River, and Roy R. Denslow, Nutley, N. J., assignors to E. I. duPont de Nemours & Company, Wilmington, Del. Filed March 2, 1946—Issued April 12, 1949.

A stable coating composition comprising an organic film-forming vehicle containing a cellulose derivative selected from the group consisting of water insoluble cellulose esters and cellulose ethers and a hydrous ferric-ferrous oxide pigment having an average particle size diameter of less than 100 millimicrons and consisting of from .2% to 5% ferrous iron and from 99.8% to 95% ferric iron based on the total iron present.

PRICES

The prices below reflect general market quotations applying to those standard grades in which the normal volume of business is being done.

NEW YORK

Delivered New York

Standard News, per ton—

Rolls, contract	$100.00/	—
Sheets	115.00/	—

F.o.b. Mills, Carload freight allowed, dock N. Y.

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.50/	—
No. 1 Wrapping Rolls	7.25/	—
Standard Bag	6.00/	—

Tissues—per ream 24x36 (480) 10 lbs.
2500 lbs. or more

Wh. No. 1 Frd.	$155.00/	—
Wh. No. 1 M. G.	150.00/	—
Wh. No. 1½	140.00/	—
Wh. No. 2	120.00/	—
Kraft Anti-Tar	1.37½/	—
Shrd. Wh. No. 1 per lb.	.11½/	—

Toilet— per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.95/	—
Bleached 4½x3	8.80/	—
Per Case of 50 rolls—2000 sheets		
Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.80/	—
Per Case of 100 rolls—1000 sheets		
Facial, 4½ x 5, 2 ply	$8.95/$9.45	

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.25
Br. Sr. M'tif'd 10x12	3.60
Br. Jr. M'tif'd 9½x9¾	3.10
Br. Jr. Sgl. fold 10x10¾	3.15
Blchd. 7½ x 11, 24/25 rolls	$3.95/$6.25

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05/$17.50	
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50	
Wrapping Manila	8.75/ 10.50	
Printing Manila	10.00/ 11.00	

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$70.00/	—
Plain Chip	70.00/	—
Blchd. Mla. L-d. Chip*	92.50/	—
White Pat. coated*	110.00/	
Kraft Liners 42 lb.	100.00/	
Kraft Corr. .009	105.00/	
Binders Boards	110.00/116.00	

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds

	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.35/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers

	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 36.10
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds

	4 Ctns.
	per cwt.
No. 1	$17.50/ —
No. 2	16.65/ 16.75
No. 4	15.60/ 15.95

Ledgers

	4 Ctns.
	per cwt.
No. 1	$18.80/ —
No. 2	18.05/ —

White Book

Conversion Coated	Case
	per cwt.
No. 1	$19.75/$20.90
No. 2	19.25/ 19.65
No. 3	17.75/ 18.90
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.90/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

WORLD WOOD PULP MARKETS

Third Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Full freight allowance		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/ —			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.50/ —	125.00/128.00		
Sulphate, Unbl'd North'n	— / —	82.50/105.00	94.00/ —	with	
Sulphate, Unbl'd South'n	80.00/ —				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

Fourth Quarter Prices, Per Short Air-Dry Ton

Sulphite, Blchd. (Sftwd.)	118.00/ —				

WASTE PAPER MARKET

Prices to Mills (Per Ton)

	Deld. Local Mills; F.o.b. Cars			F.o.b. Cars
	New York Sept. 2	Philadelphia Aug. 16	Boston Sept. 10	Chicago Sept. 1
No. 1 Mixed Paper	$7.00/ $8.00	$5.00/ $6.00	$7.00/ —	$8.00/ —
Boxboard Cuts	7.00/ 8.00	4.00/ 5.00	— / 5.00	11.00/ —
Mill Wrappers	11.00/ 12.00	7.00/ 9.00	— / 9.00	10.00/ —
No. 1 News	9.00/ 10.00	9.00/ 10.00	10.00/ 12.00	12.00/ —
Over-issue News	15.00/ 16.00	12.00/ 14.00	8.00/ 10.50	18.00/ —
Corrugated Containers	17.00/ 20.00	15.00/ 16.00	18.50/ 20.00	20.00/ —
New Corrugated Cuts	18.00/ 20.00	20.00/ 23.00	16.00/ —	23.00/ —
Double Kraft Ld. Corr. Cuts	30.00/ 32.00	30.00/ 35.00	25.00/ —	40.00/ —
Used Kraft Bags	25.00/ 30.00	18.00/ 22.00	25.00/ 30.00	20.00/ —
No. 1 Brown Kraft Paper	25.00/ 30.00	25.00/ 30.00	25.00/ —	20.00/ —
Super Resorted Br. Kraft	25.00/ 30.00	35.00/ —	40.00/ —	35.00/ —
New Br. Kraft Env. Cuts	65.00/ 70.00	60.00/ 65.00	60.00/ 65.00	55.00/ —
New Br. Kraft Cuts	40.00/ 45.00	55.00/ —	45.00/ —	50.00/ —
No. 1 Gdwd. Shvs.	15.00/ 20.00	15.00/ —	25.00/ —	25.00/ —
White Newsblanks	45.00/ 50.00	35.00/ —	— / 50.00	35.00/ —
No. 1 Flyleaf Shvs.	25.00/ 30.00	15.00/ 18.00	35.00/ 45.00	30.00/ —
No. 1 Soft Wht. Shvs.	65.00/ 70.00	60.00/ 65.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	80.00/ 85.00	65.00/ 70.00	80.00/ 90.00	60.00/ —
Hd. Wht. Shvs.	85.00/ 95.00	75.00/ 80.00	80.00/ 90.00	80.00/ —
Hd. Wht. Env. Cuts	100.00/105.00	90.00/ 95.00	90.00/105.00	90.00/ —
New Manila Env. Cuts	65.00/ 75.00	60.00/ —	60.00/ 70.00	55.00/ —
Col. Tab Cards	30.00/ 35.00	20.00/ 25.00	35.00/ —	35.00/ —
Manila Tab Cards	65.00/ 75.00	60.00/ 65.00	65.00/ 75.00	60.00/ —
No. 1 Mixed Ledger	30.00/ 35.00	25.00/ 30.00	37.50/ —	35.00/ —
White Ledger	45.00/ 55.00	35.00/ 45.00	50.00/ 60.00	45.00/ —
Mixed Books & Mags.	7.00/ 8.00	4.00/ 5.00	12.00/ —	7.00/ —
No. 1 Rep'd Hvy. Books & Mags.	20.00/ 25.00	8.00/ 10.00	22.00/ 23.00	20.00/ —

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)	
Coarse Polished—India	.35½/ .36½
Fine Polished India	.41½/ .43
Unpolished—Paper Makers	.32½/ .34½
Tube Rope	.33¼/ .35½
Wrapping	.36 / .38¼
Cotton	.58 / .60
Polished Cotton	.55 / —
(Hard Fiber)	
Mex. Sisal	.21 / .27
(American Hemp)	
Polished Hemp	.45 / .48
Unpolished	.35 / .37½

Rag Market

New Domestic Cotton Cuttings
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
White Shirt	$10.00/	$10.50
Unbleached Muslin	10.00/	10.50
Light Silesias	7.00/	7.50
White Back Blue Overalls	6.25/	6.50
Blue Overalls	6.00/	6.25
Fancy Shirt	4.50/	5.00
Percales	5.50/	6.00
Light Prints	5.50/	6.00
No. 1 Washables	2.75/	3.00
Bleachable Khaki	5.00/	5.50
Unbleachable Khaki	4.50/	5.00
Cottonades	4.25/	4.75
Lt. Flannelettes	7.00/	7.50
Men's Corduroy	3.50/	4.00
Women's Corduroy	3.00/	3.50

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
No. 1 Whites, Repacked	$4.25/	$4.75
No. 1 Whites, Miscellaneous	3.50/	4.00
No. 2 Whites, Repacked	2.75/	3.00

No. 2 Whites, Miscellaneous ...	2.00/	2.25
Cotton Pants & Overalls	2.50/	2.75
Thirds and Blues, Repacked	2.00/	2.25
No. 1 Roofing Rags	1.25/	1.35
No. 2 Roofing Rags	1.15/	1.25
No. 3 Jute Bagging	1.05/	1.10
No. 4 Brussels & brd. Bck'd crpts.	**.90/**	**1.00**
Roofing Bagging	**.80/**	**.95**

New Foreign Cotton Cuttings

(Prices to Dealer, F.o.b. Dock, N. Y.)

Per 100 lbs.

New Dark Cuttings
New Mixed Cuttings
Light Silesias
Light Flannelettes
New White Cuttings
New Unbleached Cuttings
Fancy Shirt Cuttings
Light Prints
Bleachable Khaki, No. 1
Unbl. Khaki, No. 1

prices are nominal

Old Foreign Rags

(Prices to Dealer, F.o.b. Dock, N. Y.)

Per 100 lbs.

No. 1 White Cottons
No. 2 White Cottons
No. 3 White Cottons
No. 4 White Cottons
Extra Light Prints
Old Light Prints
Med. Light Prints
Dutch Blue Cottons
Checks and Blues
Linsey Garments
Dark Cottons, European
Dark Cottons, Egyptian
Old Shopperies
New Shopperies

prices are nominal

Bagging

(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.	
Foreign Gunny, No. 1	$6.75/	$7.00
Domestic Gunny, No. 1	6.75/	7.00
Heavy Wool Tares	6.50/	7.00
No. 1 Scrap Bagging	4.75/	5.00
Foreign Manila Rope	5.00/	5.25
Domestic Manila Rope	5.00/	5.25
Jute Strings	5.50/	5.75
No. 1 Sisal Strings	4.50/	4.75
Mixed Strings	1.15/	1.30

PHILADELPHIA

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.	
White Shirt	$10.00/	$10.50
Fancy Shirts	4.50/	5.00
Light Silesias	6.50/	7.00
Unbleached Muslin	9.75/	10.25
Light Prints	5.25/	5.75
Washable No. 1	2.50/	3.00
Blue Overall	5.75/	6.25
Percales	5.50/	6.00
Bleachable Khaki	4.50	5.00
Unbleachable Khaki	3.25/	3.75
Men's Corduroy	3.75/	4.25
Ladies' Corduroy	3.25/	3.75
Cottonades	4.00/	4.50

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.	
Mixed White	$3.00/	$3.50
Thirds and Blues Repacked	2.25/	2.50
Cotton Pants & Overalls	2.25/	2.50
No. 1 Roofing Stock	1.20/	1.30
No. 2 Roofing Stock	1.10/	1.15
Roofing Bagging	.90/	1.00

Bagging

(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.	
Old Manila Rope	$5.00/	$5.25
Foreign Gunny No. 1	6.75/	7.00
Domestic Gunny, No. 1	6.75/	7.00
Sisal Strings No. 1	3.00/	3.50
No. 1 Scrap	4.00	4.50
No. 1 Jute Rope	5.50/	6.00

BOSTON

Bagging

(F.o.b. Boston)

	Per 100 lbs.	
Foreign Gunny	$6.50	/$7.00
Domestic Gunny	6.50	/ 7.00
Domestic No. 1 Old Rope	5.00	/ 5.25
Foreign No. 1 Old Rope	5.00	/ 5.25
Mixed Strings	**1.35**	**/ —**
Transmission Rope—Domestic ...	**3.00**	**/ 3.50**
Jute Carpet Threads	**—**	**/ 4.00**
Bleachery Burlap	**—**	**/ 9.00**
Scrap Burlap—		
Foreign	5.00	/ 5.25
Domestic	5.50	/ 6.00
South America	5.00	/ 5.50
Austr. Wool Pouches	**8.25**	**/ 8.75**
New Zealand Wool Pouches	**—**	**/ 6.00**
New Burlap Cuttings	**7.50**	**/ 8.00**
Heavy Baling Bagging	**7.50**	**/ 8.00**
Paper Mill Bagging	**—**	**/ 5.00**

Domestic Rags (new)

(F.o.b. Boston)

	Per 100 lbs.	
New Light Prints	**5.75**	**/ 6.00**
Fancy Percales	6.25	/ 6.50
White No. 1 Shirt	10.00	/10.75
Light Flannelettes	**—**	**/ 7.00**
Canton Flannels, Bleached	**—**	**/ 9.00**
Underwear Cutters, Bleached ...	10.75	/11.25
Underwear Cutters, Unbleached ..	10.00	/10.25
Blue Overalls	6.00	/ 6.50
Soft Unbleached	9.75	/10.50
Blue Cheviots	6.00	/ 6.50
Fancy Shirt	4.00	/ 4.50
Washable	3.00	/ 3.25
Khaki Cuttings	5.00	/ 5.25
Men's Corduroy	4.50	/ 5.00
Khaki Canvas	—	/ 5.50
B. V. D. Cuttings	10.00	/10.25

Domestic Rags (old)

(F.o.b Boston)

	Per 100 lbs.	
No. 1 Whites, Repacked	3.00	/ 3.50
No. 1 Whites, Miscellaneous ...	2.50	/ 3.00
Twos and Blues, Repacked	**—**	**/ 2.00**
Cotton Pants & Overalls	2.50	/ 2.75
No. 1 Roofing Stock	.95	/ 1.10
No. 2 Roofing Stock	.85	/ 1.00
Roofing Bagging	.75	/ .80

MATERIALS

Blanc Fixe

Prices firm. Supply adequate. Heavy demand. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Demand improved. Prices steady. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l., works.

Casein

Notable increase in demand temporarily firms Argentine prices. Little domestic available. Current prices on processed acid precipitated grades 21½ to 22½ cents, imported grades 19 to 20 cents, f.o.b. shipping point, car lots.

Caustic Soda

Demand moderate. Stocks ample for prompt shipment. Prices firm. L.c.l. sales reported at competitive levels. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums—car lots at works; liquid 50 percent in tank cars at $2.40 per cwt.; liquid 73 percent in tank cars at $2.50 per cwt., at works.

China Clay

Demand strong. Prices firm. Supply of domestic and imported ample. **Domestic filler quoted at $10 to $12.50 per ton, car lots, f.o.b. mines. Coating clay is $15 to $25. Imported clay quotation, short tons, $16 to $35, export warehouse.**

Chlorine

Demand strong. Supply condition slightly improved. Prices firm. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

Export orders brighten market tone. Grades WG to G dip when 100 drum offer found no takers. Gum rosin in drums per 100 pounds net in car lots, f.o.b. Savannah, B, $5.75; G, H, I, K, $5.62; wood rosin, per 100 lbs., car lots f.o.b. Savannah; B, $4.25; FF, $5.50.

Rosin Size

Demand steady. Supply good. Seventy percent **gum and pale wood grades, tank cars, $5.45 to $5.55 f.o.b. southern shipping point.**

Salt Cake

Demand fair. Domestic quoted at $22.00/$24.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

Demand gains. Supply easy. Prices firm. Current prices, car lots per 100 pounds; in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Starch, Corn

Prices steady at Sept. 1 levels until Sept. 15. Improved demand noted. Supply ample. Pearl grade currently quoted at $4.85 per 100 pounds; powdered starch at $4.96 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Stronger paper demand. Supply tight. Market firm. Prices stronger. Idaho quantities limited to warehouse. High grade quoted at $7.00 cwt., l.c.l., ex N. Y. whse. Maine supply quoted $4.75/$4.88, f.o.b. Maine warehouse.

Sulphate of Alumina

Demand steady. Prices firm. Supply good. The **commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.**

Sulphur

Supply ample. Demand sustained at good level. Prices firm. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

Prices steady. Demand continues ahead of supply. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

Supply good. Moderate demand. Superior high range from $9.00/$10.00 cwt.; high grades $8.00/$8.50 cwt., on dock Atlantic and Gulf ports; medium grades range from $7.25/$8.00 cwt. on dock, N. Y.

Titanium Dioxide

Demand picks up. Supply ample. Prices firm. Anastase 19½c pound carload lots, 20c l.c.l., rutile, 21½c pound carload lots, 22½c l.c.l.; 50-pound bags, f.o.b. plant, actual freight allowed.

IMPORTS

IMPORTS AT NEW YORK

Week Ending Sept. 10

Newsprint

N. Y. Sun, Fort Avalon, St. Johns, 478 rolls.
Hearst Enterprises Inc., Fort Avalon, St. Johns, 724 rolls.
N. Y. Times, Fort Avalon, St. Johns, 453 rolls.
Gilman Paper Co., Fort Avalon, St. Johns, 91 rolls.
N. Y. World Telegram, Fort Avalon, St. Johns, 1811 rolls.
Bato Co. Inc., Fort Avalon, St. Johns, 416 rolls.
News Syndicate Co., Colabee, Baie Comeau, 6988 rolls.
R. A. Olsen, Kermic, Donnacona, 356 rolls.
H. C. Craig Co., Newscarrier, Donnacona, 353 rolls.
News Syndicate Co., Ethel Tombs, 3 Rivers, 325 rolls.

Photo Paper

J. J. Gavin Co., Queen Elizabeth, Southampton, 6 cs. (unsensitized).

Filter Paper

E. Fougera & Co., American Merchant, Bordeaux, 5 cs., 3 lds.
J. E. Bernard & Co., Gripsholm, Gothenburg, 5 cs.

Wallpaper

Orientex Ltd., City of Alma, Kobe, 4 cs.
R. F. Downing & Co., America, Havre, 8 cs.
C. A. Haynes & Co., Britannic, Liverpool, 7 cths.

Printing Paper

International Expediters, American Clipper, London, 6 cs.

Paper & Envelopes

H. W. Robinson & Co., American Clipper, London, 2 cs.

Wrapping Paper

The Borregaard Co., Inc., Gripsholm, Gothenburg, 82 rolls.

Paper Xmas Stars

D. H. Burdett, Gripsholm, Gothenburg, 8 cs.

Boxboards

General Motors Overseas Operations, Gripsholm, Gothenburg, 52 blds.

Here's how

groundwood mills

benefit from

and **calgon**

technical

service

1.

PITCH CONTROL

Pitch is especially troublesome when green wood is used in pulping, but even when seasoned wood is used, pitch may also be a problem. It accumulates on wires and press rolls, causes wet breaks and decreases production. Controlling pitch agglomeration by the use of Calgon prevents this—and Calgon technical representatives will be glad to show you how Calgon can be used to best advantage in *your* mill.

2.

IRON CONTROL

Iron, even in concentrations of only 1 or 2 parts per million has a decided effect in breaking down peroxide.

Copper and manganese likewise act as catalysts.

Calgon has the ability to inhibit the action of iron, copper, and manganese, and this same treatment will also eliminate staining due to iron.

Calgon technical representatives are ready to help you get best results.

We will be glad to give you full information on these and other uses of Calgon in the paper industry. Just write and tell us about your problem.

*T. M. Reg. U. S. Pat. Off.

HAGAN
HALL
BUROMIN
CALGON

calgon, inc.

A SUBSIDIARY OF
HAGAN CORPORATION

HAGAN BUILDING
PITTSBURGH 30, PA.

Wallboard

Elof Hansson Inc., Gripsholm, Gothenburg, 222 bdls.

Tissue Paper

B. F. Drakenfeld & Co., Britannic, Liverpool, 2 cs. (gauze stereotyping).

B. F. Drakenfeld & Co., American Builder, Liverpool, 15 cs.

Serviettes

(———), Britannic, Liverpool, 10 crates.

Miscellaneous Paper

Overton & Co., Queen Elizabeth, Southampton, 1 cs.

Crane Gallo Artists Supply Co., Excalibur, Leghorn, 6 cs.

Rags, Baggings, etc.

1st National Bank of Boston, Hellenic Star, Pireaus, 72 bls. rags.

New England Waste Co., Jalakendra, Tuticorin, 450 bls. cotton waste.

New England Waste Co., Stockholt, Santos, 162 bls. old jute bagging.

National Bank of Detroit, Gudrun Maersk, Bremerhaven, 221 bls. old jute rags.

Cowa & Co., Mormacdale, Cabedello, 279 bls. cotton waste.

J. Cohen & Son, Britannic, Liverpool, 14 bls. grey linen cuttings.

American Express Co., Britannic, Liverpool, 11 bls. old wool rags, 8 bls. new wool rags, 13 bls. wool card waste.

(———), Britannic, Liverpool, 29 bls. new wool rags.

E. J. Keller Co., Inc., American Builder, Manhester, 75 bls. scrap bagging, 87 bls. cotton tares.

E. J. Keller Co., Inc., Eucadia, Glasgow, 87 bls. bagging.

(———), Eucadia, Glasgow, 112 bls. old jute bagging, 61 bls. millers bagging, 113 bls. old potato bagging.

Josef Stern, Brazil, Buenos Aires, 18 bls. rags.

E. J. Keller Co., Inc., Black Falcon, Antwerp, 58 bls. scrap bagging.

Building

- **FOR THE PAPER INDUSTRY**
- **We design, build, and equip paper and pulp mills ... steam generating plants ... and facilities for eliminating stream pollution.**
- **Under one contract and one responsibility, we deliver jobs complete, ready for operation.**
- **We also furnish engineering reports and surveys. Current cost data available at all offices.**

The H.K. Ferguson Co.
INDUSTRIAL ENGINEERS AND BUILDERS

THE FERGUSON BUILDING • CLEVELAND, OHIO
OFFICES IN NEW YORK, HOUSTON, CHICAGO, CINCINNATI AND LOS ANGELES

E. J. Keller Co., Inc., Exchange, Bombay, 200 bls. old jute rags.

Casein

Tupman Thurlow Co., Bowrio, Buenos Aires, 500 bags.

American Cyanamid Co., Brazil, Buenos Aires, 3100 bags.

Hercules Powder Co., Brazil, Buenos Aires, 2000 bags.

P. A. Dunkel, Brazil, Buenos Aires, 1200 bags.

Crawford Keen Co., Brazil, Buenos Aires, 200 bags.

Wilbur Ellis, Brazil, Buenos Aires, 700 bags.

China Clay

English China Clays Sales Corp., Stonegate, Avonmouth, 1176 bags.

Woodpulp

The Borregaard Co., Inc., Gripsholm, Gothenburg, 305 bls. dry chemical pulp.

G. A. Richter, Gripsholm, Gothenburg, 2 crates woodpulp (samples).

Pagel Horton & Co., Inc., Gripsholm, Gothenburg, 1 cs. woodpulp (samples).

Bulkley Dunton Co., Gripsholm, Gothenburg, 1 cs. woodpulp (samples).

IMPORTS AT BOSTON
Week Ending Sept. 10

American Express Co., American Clipper, London, 5 cs. wallpaper.

IMPORTS AT PHILADELPHIA
Week Ending Sept. 10

Belmont Burlap Bag Co., American Clipper, London, 50 bls. bagging waste.

IMPORTS AT NORFOLK
Week Ending Sept. 10

Schwabach & Co., Black Falcon, Antwerp, 123 bls. cotton waste.

E. J. Keller Co., Inc., Black Falcon, Antwerp, 79 bls. old bagging.

E. Butterworth & Co., Black Falcon, Antwerp, 90 bls. old bagging.

(———), Black Falcon, Antwerp, 100 bls. jute waste.

Chemical Bank Trust Co., Black Falcon, Rotterdam, 53 bls. bagging rags.

IMPORTS AT BALTIMORE
Week Ending Sept. 10

American Cyanamid Co., Jessie Maersk, Buenos Aires, 900 bags casein.

Ayres W. C. Co., Ogna, Rouen, 61 bls. cotton waste.

IMPORTS AT HOUSTON
Week Ending Sept. 10

(———), Andyk, Antwerp, 56 bls. jute rags, 25 bls. waste bagging, 153 bls. old bagging.

IMPORTS AT NEW ORLEANS
Week Ending Sept. 10

(———), Andyk, Antwerp, 99 bls. waste bagging.

Canadian Revenue Frt. Carloadings

OTTAWA—Revenue freight loaded on the Canadian railways during the week ended August 27 this year totaled 3,656 cars of woodpulp and paper as compared with 3,769 in the preceding week and 3,973 in the similar week a year ago, the Canadian Government reports.

The Eastern Division accounted for 3,213 cars in the week ended August 27 as against 3,299 in the previous week and 3,488 in the similar week a year ago, with the Western Division showing 443 cars in the week ended August 27 compared with 470 in preceding week and 485 in the similar week last year.

Waterproof Packaging Papers For Steel Product Exports

WASHINGTON—The types of waterproof papers necessary for packaging steel products for export shipment are detailed in a new volume by the Department of Commerce Bureau of Standards "Packaging of Steel Products for Overseas," the full title of which is listed further on.

Pointing out that the waterproof papers specified for this use should meet or exceed the requirements set forth in "Federal Specification UU-P-271, Paper, Waterproof," the recommendations list the following.

(1) *Plain wrapping paper, creped or uncreped:* (a) 45-pound paper. The paper should have a basis weight of 45 pounds per 500 sheets 24 x 36 inches. The bursting strength should be 40 pounds and the tearing strength not less than 87 grams in either direction per inch of width. (b) 60-lb., paper; should have abasis weight of 60 pounds per 500 sheets 24 x 36 inches. The bursting strength should be 51-lb., and tearing strength not less than 114 grams in etiher direction per inch of width.

(2) *Grease-resistant or water-repellent paper*: This paper is pure sulfate kraft, tub-sized for water-proofing and with a high-finish waterproof and grease-resistant surface. It is desirable that the paper be acid-free and noncorrosive. It should have high bursting and tearing strength and be of such nature as to permit the folding and shaping ordinarily encountered in manual and machine packaging operations wtihout mechanical failure.

(a) 80-lb., paper; should have a basis weight of 80 lbs., per 500 sheets 24 x 36 inches. The bursting strength should be 60 pounds and the tearing strength not less than 80 grams in either direction per inch of width. This paper is used for lining boxes.

(b) 120-lb., paper; should have a basis weight of 120 lbs., per 500 sheets 24 x 35 inches. The bursting strength should be 120 lbs.; the air-resistance porosity should be 2,500 seconds, and the direct water-resistance, 2,800 seconds. This paper is used for wrapping lifts of sheets and sheet coils.

(c) 60-lb., creped paper; should have a basis weight of 60 lbs., per 500 sheets 24 x 36 inches. The bursting strength should be 51 lbs., and tearing strength not less than 114 grams in either direction per inch of width. The paper should be treated before creping with wax or synthetic resin.

(d) 45-lb., creped paper; should have a basis weight of 45 lbs., per 500 sheets 24 by 36 inches. The bursting strength should be 40 lbs., and tearing strength not less than 87 grams in either direction per inch of width. The paper should be treated with wax or synthetic resin before creping.

(3) *Waterproof papers:* (a) Duplexed-creped one drection. (Type A) The sheet should consist of two sheets of paper made from 100 percent sulfate fiber laminated with asphaltum or its equivalent. The paper before creping should have a minimum basis weight of 30 lbs., per 500 sheets 24 x 36 inches; the basis weight of

asphaltum should be 30 lbs. The fabricated sheet should show no substantial bleeding due to asphaltum penetrations when tested by suspension for five hours in air uniformly heated to 170° F. The fabricated sheet should meet the following physical requirements: Tensile strength per inch width (minimum 15 pounds; Water-resistance (dry indicator method) (minimum) ten hours; Stretch in creped direction (minimum) 30 percent.

(b) Duplex-reinforced, creped one direction. (Type D-2). The sheet should consist of two sheets of paper made from 100 percent sulfate fiber laminated with asphaltum or its equivalent, in which are embedded cords or strands of fiber running the long direction of the paper not more than one-half inch apart.

The paper before creping should have a minimum basis weight of 30 lbs., per 500 sheets 24 x 36 inch; the basis weight of the asphaltum should be 60 lbs. The fabricated sheet should show no substantial bleeding due to asphaltum penetrations when tested by suspension for five hours in air uniformly heated to 170° F. The fabricated sheet should meet the following physical requirements: Tensile strength per inch width (minimum) 15 pounds; Water-resistance (dry indicator method) (minimum) 12 hours; Stretch in creped direction (minimum) ten percent.

(c) Duplexed-reinforced two directions. (Type E-1) The sheet should consist of two sheets of paper made from 100 percent sulfate fiber laminated with asphaltum, in which are embedded cords or strands running in any two directions of the paper, not more than one inch apart. The paper should have a minimum basis weight of 30 pounds per 500 sheets 24 x 36 inches. The basis weight of asphaltum should be 90 lbs., minimum. The fabricated sheet should meet the following physical requirements: Tensile strength per inch (minimum) 45 pounds; Water-resistance (dry indicator method) (minimum) 24 hours.

(d) Coated fabric sheeting, lined, uncreped. This paper consists of one sheet of paper made from 100 percent sulfate fiber laminated to fabric sheeting with asphalt. The paper should have a minimum basis weight of 30 lbs., per 500 sheets 24 x 36 inches. The fabric sheeting should have a weight of one lb., per seven yards 36 inches wide. The basis weight of asphaltum should be 30 lbs.

If burlap is used as a fabric, the weight of the burlap should be 7½ oz., per yard, 40 inches wide.

(e) 30-45 Duplex. A water-resistant, neutral, synthetic, resin-impregnated and laminated creped paper.

These recommendations are embodied in the pamphlet "Packaging, Marking, and Loading Methods for Steel Products for Commercial Overseas Shipments"—Simplified Practice Recommendation R237-49.

FINANCIAL RECORD

	Per Share Earnings		Indic.	Sept. 13
PREFERRED STOCKS	Calendar Year 1948	12 Mo. to Approx. 6/30/49	Annual Divid. Rate	Approx. Market Price
Armstrong Cork Co. $3.75 Cum.	$46.33*	$38.47*	$3.75	$98⅞
Armstrong Cork Co. $4.00 Cum. Conv.	46.33*	38.47*	4.00	109½
Celotex Corp. 5% Cum.	26.42c	10.33p	1.00	16¼
Champion Paper & Fibre $4.50 Cum.	99.97f	19.91r	4.50	96¾
Container Corp. of Amer. 4% Cum.	105.41	99.87	4.00	100¾
Crown Zellerbach $4.20 Cum.	61.84i	61.00p	4.20	100½
Crown Zellerbach $4.00 Cum. Conv. 2nd	58.51i*	57.90p*	4.00	94¼
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.04	2.50	50½
Flintkote Co. $4 Cum.	83.25	66.07	4.00	102½
Robert Gair Co., Inc. 6% Cum.	17.08	13.73	1.20	16⅞
International Paper Co. $4 Cum.	263.00	254.71	4.00	102½
Johns-Manville $3.50 Cum.	209.89	212.03	3.50	110¼
Kimberly Clark Corp. 4½% Cum.	80.74	74.36	4.50	101½
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.59*	44.25*	4.00	100⅜
MacAndrews & Forbes 6% Cum.	62.23	58.66	6.00	135½
Mead Corp. 4¼% Cum.	73.46	68.78k	4.25	92½
Mead Corp. 4% Cum. Conv. 2nd	29.91*	24.30k*	2.00	31
Paraffine Cos. Inc. 4% Cum. Conv.	156.11	136.31	4.00	103
Rayonier Inc. $2 Cum.	16.43	13.99	2.00	31⅛
St. Regis Paper Co. 4.40% 1st A	79.90	51.11	4.40	82¼
Scott Paper Co. $3.40 Cum.	59.06	55.14	3.40	95⅛
U. S. Gypsum Co. 7% Cum.	314.45	296.82	7.00	185⅛
United Wallpaper Inc. 4% Cum. Conv.	(d)0.79	20.50	2.00	25½
West Virginia Pulp & Paper 4½% Cum.	79.45c	69.93p	4.50	107¾
COMMON STOCKS				
APW Products Co.	$0.73	(d)$0.56	(m)	2⅞
American Writing Paper Corp.	(d)0.15	(d)0.16	$0.25	6⅛
Armstrong Cork Co.	7.54	6.13	3.00	48⅞
Celotex Corp.	7.21c	2.75p	1.00	16¼
Certain-Teed Prods. Corp.	4.02	3.21	1.00	13¼
Champion Paper & Fibre	8.70f	1.70r	2.00	24½
Congoleum Nairn Co.	5.78	4.92	2.25	27¾
Container Corp. of America	10.12	9.52	4.50	36¾
Crown Zellerbach	6.70e	6.68p	2.00	27½
Dixie Cup Co.	6.70	6.65	1.00	29¼
Eastern Corp.	4.76	1.27	(h)	8¾
Flintkote Co.	5.86	4.40	2.50	27⅛
Robert Gair Co., Inc.	2.67	2.10	0.70	6¾
Great Northern Paper Co.	4.63	5.32	2.80	40½
International Paper Co.	16.73	16.19	5.00	55⅜
Johns-Manville Corp.	5.22	5.27	2.00	40⅜
Kimberly Clark Corp.	5.02	4.55	1.65	22¾
MacAndrews & Forbes Co.	3.68	3.56	2.50	35⅜
Marathon Corp.	4.11c	3.42	1.40	21¾
Mead Corp.	6.36	5.84k	1.00	13⅛
National Container Corp.	2.28	1.38	0.40	7⅛
Paraffine Cos. Inc.	2.45	2.14	1.20	19
Rayonier, Inc.	9.09	7.55	2.00	26⅜
Ruberoid Co.	11.80	9.48	3.25	51¾
St. Regis Paper Co.	2.71	1.64	0.60	7½
Scott Paper Co.	4.15	5.02	2.50	62½
Sutherland Paper Co.	6.02	4.92	2.50	34⅞
Union Bag & Paper Corp.	9.17	6.50	3.00	24⅜
United Board & Carton	2.04b	(d)1.49s	(e)	5⅜
U. S. Gypsum Co.	15.04	14.18	6.00	97⅞
United Wallpaper	(d)0.10	0.59	(n)	3⅞
West Virginia Pulp & Paper	11.33c	9.70p	4.00	43¼

(a) 12 months to approximately 3/31/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) Omitted dividend 2/4/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 1/31/49
(h) Directors took no action on 8/2/49 dividend—last payment 5/2/49
(i) 12 months to approximately 4/30/49
(j) 8 months to 12/31/48
(k) 12 months to approximately 6/12/49
(m) Directors took no action on July, 1949, dividend—last payment 1/10/49
(n) Last payment 25c, 9/16/47
(p) 12 months to approximately 7/31/49
(r) 3 months to 6/30/49
(s) 12 months to 5/31/49

(*) Earnings per combined preferred shares.

Dividends Declared

Celanese Corp. of America on September 6 declared a dividend of 60 cents per share on its common stock, payable September 30, holders of record September 16, and regular quarterly dividends for the current quarter of $1.18¾ on its first preferred stock, $4.75 series; and $1.75 per share on its seven percent second preferred stock, both payable October 1 to holders of record September 16.

MARKETS . . . . .

The Paper Market

Report Prepared by the Paper Committee of the National Ass'n. of Purchasing Agents, under the supervision of Chairman Edgar E. McCully, Courier-Journal Job Printing Co., Inc., Louisville, Ky.

The industry finds prospects are somewhat improved. With inventories in the hands of users at minimum levels and current business being reflected promptly in orders, the producers have a better demand for their products. With many mills working less than a full week, the broad underlying supply-demand picture has not been reversed. Consumption by no means approaches mill capacity; nor is there any reasonable ground to expect it to do so in the immediate future.

Published mill earnings show, on the whole, substantial declines from postwar peaks, and the competition is such that no excess fat is possible in a price structure.

Many consumers also find it very difficult to maintain adequate profit margins and this condition is reflected in demands on the merchants or mills, based on legitimate competition.

WOOD PULP—*By H. L. Weber, Fibreboard Products, Inc., San Francisco.*

There has been little if any change in the price of wood pulp since our last report. Generally, there is considerably more optimism within the pulp industry at this time, which may be due, in part, to the recent pickup in business, which may or may not be seasonal. In addition to this, the last quarter is normally the period when seasonally high purchases are made to tide over that period when Scandinavian pulps cannot be brought in.

This does not mean that there will be any shortage of pulp in any grade, as there appears to be adequate to meet any reasonable foreseeable demand. What all this adds up to is that the pulp industry seems to be in a somewhat more stable position that it was a month ago. Whether this is temporary or not, will probably not be determined for the next 60 or 90 days.

KRAFT PAPER—*By T. H. Tredwell, W. C. Ritchie & Co., Chicago.*

It appears that the price war which was in effect on kraft paper a couple of months ago is ended and prices are stabilized.

If demand holds at current level, there probably will be no appreciable reduction in the price of this commodity.

FINE PAPERS—*By E. E. McCulley.*

A more optimistic feeling exists at the mill and merchant level for fine papers, at this time. Considerable quantities of fine paper used this last year came from consumers' inventory. As these inventories are depleted, new business reaches the mills as new orders. It will give a better tone to the market and future business will present a more accurate picture of actual demand than it has these past twelve months.

The business picture of the consumers of these grades has not improved materially; so, the pressure on them from their customers, pricewise, is more intense than at any time since the war.

Attractive tonnage in fine papers is assured of sympathetic consideration at the mill level and, for volume, very real competition exists.

Competition between the rag and sulphite grades keeps active. The price reductions made by rag grades and the removal of lightweight penalties by the rag mills are diverting business. Sooner or later, this diversion will result in a more normal price spread between sulphite and rag.

BOOK PAPER—*By Ralph N. Betts, American Education Press, Inc., Columbus, Ohio.*

Book paper is following the general pattern predicted earlier in the Summer. Prices are holding fairly firm after the reductions of Spring and early Summer. There is, however, no tendency at this time to increase prices. Current production is adequate to meet present needs although, for each month of 1949 to date, production has been from 8 percent to 14 percent below the corresponding month of 1948.

Waste materials are holding at firm prices at their current level. This is particularly true of the higher grades of waste. Some of the lower grades have even advanced in price.

NEWSPRINT—*By T. A. Corcoran, Courier-Journal and Louisville Times Co., Louisville, Ky.*

Total shipments to United States users in July amounted to 443,383 tons. U.S. consumption for the month totaled 396,352 tons. Thus, consumers' stocks increased by 47,031 tons during the month and reached a total of 719,421 tons at the end of the month. This is estimated at 49 days' supply, compared to 47 days at the end of June and 37 days on July 31, 1948.

Supply is ample. Users are having additional tonnage offered daily by their regular contract sources.

High spot prices have evaporated. Newsprint is readily available at regular contract prices. Small quantities in standard sizes have been offered recently in New York City at $10 under the contract price. Narrow width rolls are being offered regularly at this price.

A recent survey of manufacturers, made by a Canadian investment house, indicates that lower contract prices will be resisted as long as consumption continues on the present high plane. Users are indirectly chided for urging additional production and, at the same time, suggesting a decrease in price. However, increased production usually results in lower unit costs and lower prices logically follow. The tact that a pamphlet has been issued to show why prices should not be reduced is a pretty good indication that there is considerable pressure for a reduction.

BOXBOARD—*By Stuart Edgerton, United States Rubber Co., New York.*

Quality — All grades are available, with quality as high as asked for.

Supply and Demand — Production has increased each week during the month, as have new and unfilled orders. In fact, unfilled orders, as of August 6, were greater than the same week of 1948.

Prices — Mills are faced with the September 1 increase of 4 percent in freight rates and will try to pass it along in board prices if they can. It might be advantageous to obtain prices from mills in various areas before any volume is placed.

General — Production in the Midwest is operating at about 90 percent. Inventories are not being built by the consumer. The quality of the board production today is as good as or better than any board that has been on the market over the years. With the recent demand on board, there has not been weakening of prices, although the undertone should be weak because of the scrap paper situation.

PAPER CONTAINERS—*By Lee R. Forker, Quaker State Oil Refining Corp., Oil City, Pa.*

It is reported that paper containers, which include multiwall bags and corrugated boxes, had an increase demand, especially during August.

This reflects the food packing season and closely follows the reported pickup in demand for glass containers and metal containers usually packed in paper boxes.

This seasonal improvement in demand, as far as food is concerned, will decline very rapidly in September, and it is expected that the demand for paper containers will continue to reflect closely general economic conditions.

Financial reports now appearing indicate profitable operations for most paper container manufacturers, but with net earnings lower than last year, reflecting a decline in volume and prices.

Paper package inventories remain low; therefore, any slight increase in demand is quickly reflected, to increase manufacturing schedules.

Supplies apparently are adequate, and prices probably will remain firm for the balance of this year.

WEST COAST CONDITIONS—*By Horace Duckenfield, Metropolitan Life Insurance Co., San Francisco, Calif.*

An analysis of the situation in the paper industry — in San Francisco, at least — is almost impossible due to the somewhat far-reaching effects of the prolonged warehouse strike.

As far as paper products are concerned, the actual demand in the City

is quite light, so that practically all requirements have been met by makeshift methods necessitated by the strike.

Reports up and down the West Coast show that, as a whole, demand seems to be quite light, resulting in supplies showing quite adequate; orders placed with the mills are delivered with relatively good speed. There is a belief that inventories have been reduced generally — enough so that, if there should be any pickup in demand in the Fall, it would be immediately reflected in emergency demands on the mills.

The above remarks may be applied to practically all grades and types of paper and boards.

CANADIAN CONDITIONS: *By J. F. Stephenson, Kraft Containers, Ltd., Hamilton, Canada.*

Conditions at the mill today are extremely favorable. There is practically nothing on back order, consequently, the mills are producing sufficient to take care of all demands. Another very hopeful indication of better conditions is the fact that there is a very large amount of pulpwood already cut and standing in the bush and, in some quarters, it looks as though it would not be necessary even to cut as much as in previous years. However, until conditions are definitely stabilized, it would be well to continue to carry a good stock. It might be mentioned that there is a slight restriction on the amount to be shipped to Europe, and this will add to the Canadian stocks; however, until things clarify themselves, it would be better to keep well covered.

All grades of kraft are in good supply, with plenty of machine time, in most cases, available. This is caused by the lack of dollars rather than fewer demands for paper. Good deliveries are being maintained and the outlook for the next three months, as far as supply goes, is excellent, with very little price change expected.

MISCELLANY

(Continued from page 31)

H. & W. Ups Penhaker and Morian

BOSTON—The Hollingsworth & Whitney Co. has named John J. Penhaker manager of merchant sales and Clarke H. Morian, Jr., manager of converter sales. Both positions are newly created ones in the enlarged H. & W. sales organization. Messrs. Penhaker and Morian will continue to make their headquarters at the company's Eastern Sales Division office, 230 Park avenue, New York.

New Paper & Twine Assn. Members

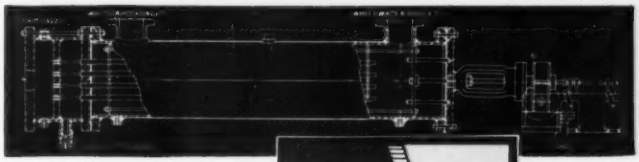
CINCINNATI—Recently admitted to membership in the Paper & Twine Ass'n., are: Paul Morrissey of the Schwartz Paper Co., Peoria, Ill., and James C. Steffan of the Rexford Paper Co., Columbus, Ohio.

AT LAST IT'S HERE!

.....CONTINUOUS WHITE WATER HEATING WITH NO SHUTDOWNS FOR CLEANING.....

Paracoil Automatic SELF CLEANING WHITE WATER HEATER

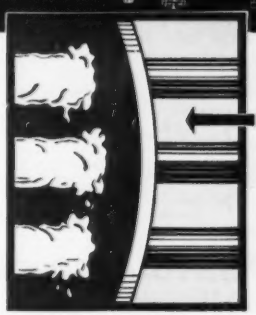
Specially Designed for the Paper Industry



HOW IT WORKS

The transverse heater baffles, which also serve as tube surface cleaners, are connected by tie rods to the yoke plate, which in turn is connected to the drive mechanism at the right. The time controls close the motor circuit at predetermined intervals. The yoke plate moves each baffle longitudinally along the tubes, until the drive mechanism reverses the action and returns the baffles to their original position.

Available in models for either manual, electric motor or hydraulic piston drive. Automatic types operate on adjustable predetermined time schedules.



BAFFLES MOVE FORWARD AND BACKWARD LEAVING TUBES CLEAN AS A WHISTLE

Patent No. 1828747
Other Patents Applied For

A BATCH OF MANUAL TYPE SELF CLEANING HEAT EXCHANGERS READY FOR SHIPMENT.

Every Inch of Every Tube Is Thoroughly Cleaned At Every Cycle!
100% Heater Capacity Available At All Times!
Standby Heating Equipment No Longer Needed!
Old Style Heater Cleaning Costs Forever Banished!

DAVIS ENGINEERING CORPORATION
1064 East Grand Street
Elizabeth 4, New Jersey
30 Rockefeller Plaza, New York 20

Private Pulpwood, Pulp Buying OK'd

LONDON, Eng. — Bulk government buying of wood pulp and pulpwood will cease March 31, 1950, the Board of Trade reported on September 8. Paper manufacturers will be allowed to import such materials on their own account, the board said, but all imports will be subject to import licenses. Adopted as a war measure, bulk buying by the government meant that paper manufacturers in Britain had to purchase their supplies from the Board of Trade. Manufacturers, the board said, will be under an obligation to buy from it a proportion of the stocks now held by the government.

ECA Procurement OK's

WASHINGTON—A decrease of $190,000 was reported in pulp and paper products authorized for procurement last week by ECA. Such curtailments usually mean transfers of purchases from one quarter to another, or deferment otherwise.

Pulp-Paper Course at Polytechnic

BROOKLYN, N. Y. — An up-to-date course in pulp and paper technology for graduate chemical engineers and others with an equivalent background will be presented this fall by the Graduate School of the Polytechnic Institute of Brooklyn on Friday evenings.

Prof. Robert S. Aries and Dr. Arthur Pollak, a consultant in this field and formerly, for many years, the director of the Development Department of the West Virginia Pulp & Paper Co., will be the lecturers.

Lectures will run from 8 to 10 on Friday evenings, continuing through the Fall and Spring semesters. The registration period is the week of September 19 and the first lecture will be on September 23. A course on Printing Ink Technology will be given on the same evenings from 6 to 8 p.m. by Dr. Everett Carman, consultant and formerly with the Interchemical Corp.

The Polytechnic Institute is located at Borough Hall, Brooklyn. Further details may be obtained from the Dean of the Graduate School.

Wallastonite Research

WASHINGTON — A new industrial mineral with a wide range of possibilities for incorporation in commercial and industrial products is now under study and development, the Office of Technical Servcies of the U.S. Department of Commerce, reported on September 9.

Wollastonite, a mineral occurring in substantial deposits in New York State, was quarried and beneficiated on pilot-plant scale under an OTS research project with the New York State College of Ceramics. Possible applications were investigated in paper as well as in ceramics, chemicals, paints, rubber, welding-flux, asphalt tile, wall tile, pottery glaze, decorative-covering and abrasive-wheel materials.

Wollastonite's usefulness has been demonstrated as a component for thermal insulation; agricultural liming; mineral wool; and other materials, according to the report, and by-products of beneficiation, garnet and diopside, promise to be useful.

The report presents a series of prospective uses of wollastonite as demonstrated by about two years of study. An introductory section deals with the physical and chemical properties of the mineral. The winning, milling and beneficiation of wollastonite are discussed in a chapter based upon pilot-plant experience. A proposed commercial plant flow-sheet is included.

Wollastonite in the chemical industry was investigated by Horizons, Inc., Cleveland. Their work is summarized in the report. Ceramic applications of wollastonite conducted by the New York State College of Ceramics are also detailed.

The report states that samples will continue to be available for industrial investigations by interested firms pending the establishment of a regular production operation.

PB 97826, *Wollastonite, An Industrial Mineral,* 100 pages including charts, drawings and photographs, is available at $2.50 per copy. Orders should be addressed to the Office of Technical Services, U.S. Department of Commerce, Washington 25, D.C., accompanied by check or money order payable to the Treasurer of the United States.

"Announcement to The Paper Industry"

We have recently been granted Letters Patent of The United States Number 2,474,801 issued June 28, 1949, and entitled 'Fibrous Sheets Formed From an Aqueous Suspension of a Mixture of Fibers and Butadiene-Styrene Copolymer'. It is proposed to issue licenses to any responsible paper manufacturer.

LATEX FIBER INDUSTRIES, INC.

BEAVER FALLS, NEW YORK

OBITUARIES . . . .

Edward C. Calnan, senior engineer of the Ontario Paper Co., Thorold, Ont., who resided in St. Catherine's, Ont., and his fellow executive, *William B. Scoular,* were among those whose lives were lost in the crash of a Canadian Pacific Airways DC-3 plane against Cap Tourmente, Que., on September 9. They had been on one of their semi-annual trips to Baie Commeau when the tragedy occurred. Each leaves a widow and a family.

Miles C. Holden, president of the Holden Patent Book Cover Co., Springfield, Mass., died at his home in that city on September 9, after a short illness. Surviving him are his widow, Mrs. Faith (Leonard) Holden; three sons William L., Ralph S., and Paul; and two sisters.

Harry W. Embry, Sr., 65, vice-president and a director of the General Box Co., Louisville, Ky., and president of the Embry Box Co., a division of General, died at Kentucky Baptist Hospital in that city on September 4.

Allen Dorset Eldred, 61, president of W. J. Eldred Co., bookbinders, Springfield, Mass., died at his home in Longmeadow on September 5. He is survived by his widow and two sons.

D. Newton Miller, 55, eastern district manager of the Transo Envelope Co., died at his home in Philadelphia on September 2.

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
July 30	84.7	July 31	96.5
Aug. 6	83.3	Aug. 7	97.0
Aug. 13	85.9	Aug. 14	96.1
Aug. 20	89.9	Aug. 21	97.7
Aug. 27 (Revised)	90.9	Aug. 28	95.2
Sept. 3	91.0	Sept. 4	94.8

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	99.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	89.1
Apr.	100.8	Aug.	96.8			Apr.	85.1
		Sept.	91.8	Year Avg.	96.2	May	82.7
						June	78.6
						July	72.2
						Aug.	‡88.0

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	93.5	88.2	87.9	87.8	99.9	103.7	97.4	85.8
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

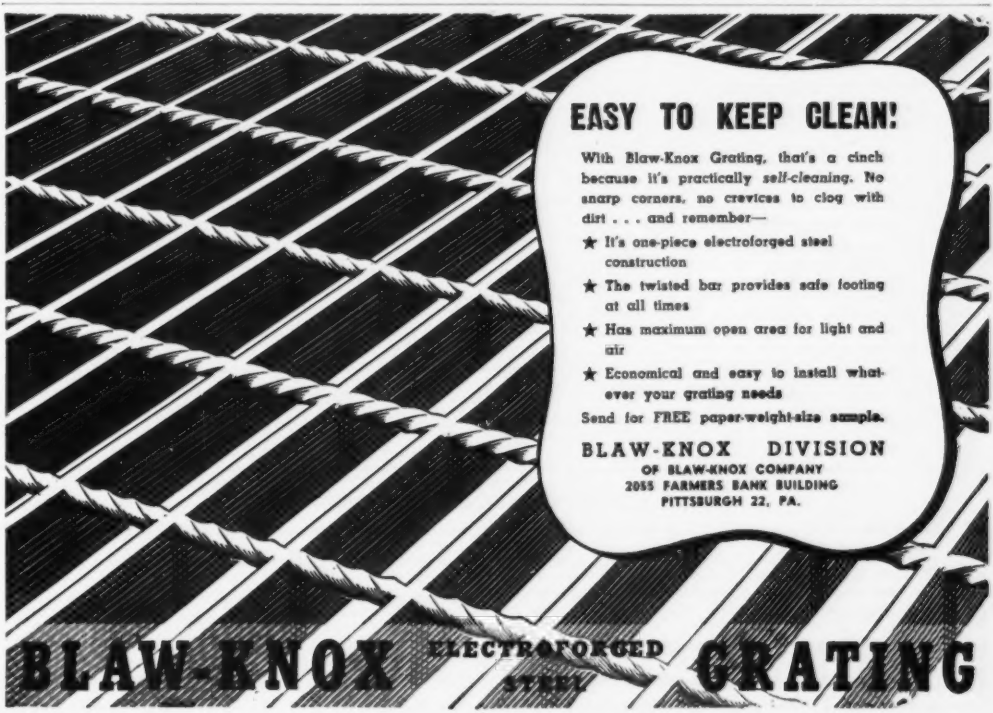
PAPERBOARD OPERATING RATIOS†

Current Weeks—1949		Corresponding Weeks—1948	
July 30	80	July 31	92
Aug. 6	82	Aug. 7	90
Aug. 13	84	Aug. 14	93
Aug. 20	87	Aug. 21	93
Aug. 27	86	Aug. 28	93
Sept. 3	89	Sept. 4	91

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79	79	78	75	64	86					

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.


EASY TO KEEP CLEAN!
With Blaw-Knox Grating, that's a cinch because it's practically self-cleaning. No sharp corners, no crevices to clog with dirt . . . and remember—
★ It's one-piece electroforged steel construction
★ The twisted bar provides safe footing at all times
★ Has maximum open area for light and air
★ Economical and easy to install whatever your grating needs
Send for FREE paper-weight-size sample.
BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY
2055 FARMERS BANK BUILDING
PITTSBURGH 22, PA.
BLAW-KNOX ELECTROFORGED STEEL GRATING

CLEARING HOUSE

HELP WANTED

Old established manufacturer and national distributor of textile and paper mill specialties interested in purchase of small chemical plant supplying these industries whose owners wish to sell their business or affiliate with larger company. Write full particulars to Box 49-450, stating especially nature of products manufactured, scale of operation, number of personnel, scope of selling operation. All replies held in strictest confidence. If you prefer you may have your counsel first approach us. Address Box 49-450 care Paper Trade Journal. B-15

Position as Assistant Mill Superintendent in our Company is open. Capacity 25,000 tons per year of tissue and other lightweight papers, such as fruit wraps, waxing, one-time carbonizing, napkins, toilet, etc. We look for a man with solid knowledge in the manufacture of tissue papers, made from bought pulp and waste papers, and with genuine interest in production and care of machinery and strict labor relationship. Present Superintendent 56 years old and promotion therefore in sight for right man. Please write with full particulars to: Fernstrom Paper Mills, Inc., P. O. Box 119, Pomona, California, attention of President. S-15

WANTED
CONVERTING SUPERVISOR

Familiar with all phases of converting toilet tissue, towels, napkins, sheeting, slitting, and cutting. N.E. Location. Full resume please. Box No. 49-444 care Paper Trade Journal. O-6

HELP WANTED
MACHINE TENDERS
BACK TENDERS
BEATER ENGINEER
EXPERIENCED ON CYLINDER MACHINE
Write: Box #2168, Paterson, N. J.
S-15

TOUR BOSS—Thoroughly experienced on all grades of folding board. Excellent compensation and further opportunity in one-machine mill. Only applicants outlining past employers and full qualifications will be considered. Address Box 49-435 care Paper Trade Journal. S-29

HELP WANTED

MEN WANTED
Positions Open

Sales manager and assistant sales manager for tissue and other light weight papers (western mill); stationery salesman for N. E. territory; chemist for pulp and paper mills (Canada); mechanical engineering graduate strong in hydraulic engineering for assistant plant engineer (western mill).
We invite correspondence (confidential) with mills seeking executives and with executives seeking new positions.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington Street, Boston, Mass.
S-15

ENVELOPE ADJUSTER

Experienced adjuster on wide range, SO and plunger machines. Permanent position with excellent opportunity for advancement. State age, experience and salary expected. Address Box 49-439 care Paper Trade Journal. S-29

SALARIED POSITIONS $3,500—$35,000

If you are considering a new connection communicate with the undersigned. We offer the original personal employment service (39 years recognized standing and reputation). The procedure, of highest ethical standards, is individualized to your personal requirements and develops overtures without initiative on your part. Your identity covered and present position protected. Send only name and address for details.

R. W. SIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.
TF

WANTED

First class Paper Mill Superintendent for two machine mill.
Must have experience on straight Fourdrinier and Cylinder machines.
Also experience using old paper stock, making Kraft Papers, Corrugated Material, Boxboard specialties, etc.
Address all replies to,

James J. (Shorty) Andrews
Wallkill Paper Mills, Inc.
P.O. North Hoosick, New York TF

WANTED—Young man experienced in manufacture and sales vulcanized fibre. Address Box 49-341 care Paper Trade Journal. TF

MACHINE TENDER—Fully experienced on all folding grades. Good steady job with excellent opportunity in one-machine mill. Address Box 49-436 care Paper Trade Journal. S-29

PAPER CHEMIST — Young, for technical service and development. Corrugating experience preferred. Established allied supplier expanding activities. NYC Headquarters. State age, qualifications, salary. Address Box 49-442 care Paper Trade Journal. S-15

SITUATIONS WANTED

TREASURER-CONTROLLER
23 years paper mill experience

Competent executive accountant and office manager desires position of responsibility with A-1 company. Successful background with two paper mills. Have installed and operated cost and general accounting systems. Good education. Practical, energetic and resourceful. Married. Box 49-449, care of Paper Trade Journal. B-22

CHEMIST — 15 years Chief Chemist paper mill. Experienced color work, past four years resin research. Seeks new connection, laboratory or sales. Address Box 49-440 care Paper Trade Journal. S-15

CHEMIST — Veteran, 29, good personality, wants position plant chemist, product development and sales. Address Box 49-437 care Paper Trade Journal. S-15

SUPERINTENDENT or Asst. Supt.—Age 39, desires to make change. 15 years experience on high speed Fourdrinier with Yankee Dryer machines, making toilet tissue, facial tissue, towels and napkins. Address Box 49-422 care Paper Trade Journal. S-15

POSITION WANTED—Master Mechanic or Mechanical Superintendent in Paper or Pulp Mill. 36 years experience. Can furnish A-1 references. Can handle construction work. Sober, not afraid of hard work. Can organize personnel and get results. Address Box 49-424 care Paper Trade Journal. S-15

PLANT ENGINEER or Master Mechanic—Practical experience in preventive maintenance of power and mill equipment in both Fourdrinier and cylinder mills. Excellent reference. Age 40 years. Address Box 49-445 care Paper Trade Journal. O-6

PAPER MAKER and Mechanic—Vast amount of experience, installing operating and maintaining cylindee and Fourdrinier machines and its auxiliary equipment. Excellent health. References. Address Box 49-448 care Paper Trade Journal. O-6

Desire position as ASSISTANT to PRESIDENT or MILL MANAGER or Technical Superintendent. College man, age 37. Excellent technical and production experience in board—pulp—mill, converting, cost-quality control, research and development. Now employed. Replies held confidential. Address Box 49-443 care Paper Trade Journal. O-6

SUPERINTENDENT—Fourdrinier or cylinder mill. High grade box board Kraft Specialties, 009 corrugating. Sulphite and groundwood specialties. Cost and quality conscious. Age 40. Excellent references. Address Box 49-446 care Paper Trade Journal. O-6

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FOR SALE—Two F. L. Smithe Webb Machines in 1st class condition equipped with 2 color printing units. Range sizes from Min. 3¾ x 6¾ O.E. to Max. 7 x 8½ O.E. Address Box 49-452 care Paper Trade Journal. S-15

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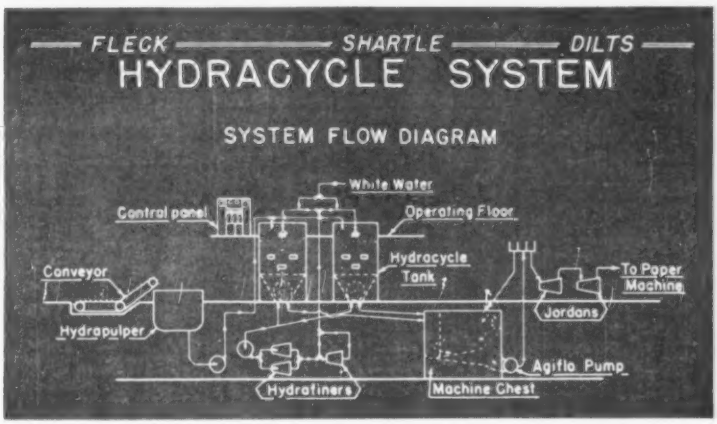

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1—Kieckhefer Elevator—6,000# capacity, 3 phase, 15 H.P., 220 Volt Motor—Platform 8 x 10—excellent condition.

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4—Wooden Trusses—58 Feet long.

1—Wickes Boiler—125 H.P., 150# H.R.T., 72" x 16' Drum, including steel stack 36" x 60'—good condition.

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Rhinelander, Wisconsin S-15

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34" Beck Sheeter, one year old.
58" and 78" Hamblet Sheeters.
34" Camachine No. 6 Slitter.
32" Hobbs and 34" Inman shear cut Slitters —very cheap.
39" Chandler & Price Automatic Power Paper Cutter.
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FOR SALE OR LEASE

Small paper mill with cylinder machine. Situated advantageously to sources of raw material and sales outlet. Ample room for converting plant in same building. Terms. Address Box 49-357, care Paper Trade Journal.

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60" Hamblet Sheeter, single knife, with 3 sets of slitters, Erie Layboy and 10-roll double deck Back-stand, and shafts.

Immediately Available.

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Cylinder Paper Machine Trimming 42"
4—36" diameter cylinders
24—36" dryers
Complete with 2 roll calender, winders, pumps etc.

For further particulars address Box 49-451 care Paper Trade Journal. S-15

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1—GE 55/110 h. p. with GE Generator — Exciter, Variable speed motor and controller.

1—GE 80/100 h. p. with GE Generator — Exciter, Variable speed motor and controller.

Both drives complete and in excellent condition.

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Tel:—HUmbolt 2-2177 S-15

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72" trim Fourdrinier Machine. Complete—for immediate delivery. Priced reasonably.

Address Box 49-455, care Paper Trade Journal. S-15

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WANTED

60" Extra Heavy Hamblett Single Cutter. Please advise condition, price and location for inspection.

BIRD & SON, INC.
East Walpole, Mass.

S-15

WANTED

Interested in Buying
GENERAL PAPER HOUSE

located in either New York Area or Mid-west. Write giving full details as to purchase price, Inventory and other important details.

Address Box 49-434, care Paper Trade Journal. S-22

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Titaniums—Glycols
Alkalies—Waxes—Solvents
Colors—Oils—Residues, etc.

Chemical Service Corporation
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S-15

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PAPER MANUFACTURER desire to purchase or invest in converting business of standard paper products. Address Box 49-274 care Paper Trade Journal. TF

WANTED—Brightwood Box Machine. Address Box 49-275 care Paper Trade Journal.

WANTED—One cast-iron split pulley 60" diameter 24" face 4½" bore, also lathe capable of turning rolls up to 36" diameter. STOCKPORT PAPER CORPORATION, Stockport, New York. S-29

WANTED TO BUY — TISSUE PAPER or TISSUE PAPER MACHINE; also 10 Dryers—4 feet diameter; Interfold and Household Towel Machines. Address Box 49-447 care Paper Trade Journal. S-22

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1—Pusey & Jones 120" Ball Bearing Fourdrinier Paper Machine. 60" diameter dryers—suction press and suction couch—Spiral Bevel Gear Drives.
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1—7 cylinder 120" Board Machine, 82 Dryers, 42" diameter. Complete with all auxiliaries.
1—6 cylinder 132" Board Machine, 67 Dryers, 42" diameter. Complete with all auxiliaries.

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3—Valley Iron 750 lb. Iron Tub—Bronze filled.

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9—Blowers and Mill Exhausters

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54 Chilled Iron Rolls—Assorted sizes.

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1—104" face 8 roll stack, with drive
1—76" face 7 roll with drive.
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1—112" face 7 roll.
1—82" face 5 roll Sandy Hill.

CONVEYOR

1—18½ ft long x 30" wide—with motor.

COUCH ROLLS—BRASS

1—104" face x 18" dia.
1—118" face x 18" dia.
1—150" face x 18" dia.
1—92" face x 19½" diameter.
2—94" face x 21¼" diameter.

COUCH ROLLS—RUBBER

1—110" face x 20" dia.—New.
1—139" face x 19" dia.

CYLINDER MOLDS

5—IMPCO 40" diameter x 84" face.
2—36" diameter x 138" face Cylinder molds with vats, couches—ball bearing.
2—74" face x 36" diameter.
1—134" face x 36" diameter, with stainless steel shafts.
1—78" face x 39" diameter.

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1—136" face x 36" dia.—with vats, couch, complete.

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1—8C. Reeves Drive. 40-50 h.p.—Ratio 4 to 1.
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1—De Laval 65 h.p. Ratio 2.24 to 1—615 r.p.m.
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4—74" face x 28" diameter with gears.
3—143" face x 48" diameter.
5—124" face x 48" diameter.
4—88" face x 36" diameter.
1—77" face x 49" diameter—with gear.
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3—63¼" face—36" diameter—bearings and gears.
6—96" face x 48" diameter.
95—126" face x 42" diameter.

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1—Downingtown—64" face x 17" diameter with bearings & stand.

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5—10 plate Sandy Hill.
1—Sandy Hill 8 plate—with scraper.
1—New Sandy Hill 12 plate, with scrapers and V-belt drive.
1—Montague 6 plate—ball bearing.

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1—P & J 156" x 80 ft. ball bearing. Complete from inlet to 22" diameter suction couch. Brass and Rubber covered table rolls. 6 Brass Suction Boxes operated at 1080' per minute.
1—M & W 82" x 49' complete with 3 suction boxes, shake, 3 section presses and size press.

HAMMERMILLS

1—American Hammermill—87" anti friction bearing equipped.

HEAD BOXES

1—110" Bronze Lead Lined. Bevel.

INLETS

1—Voith Inlet for 151" wire with 29" slice. Complete, including drive.
1—96" All bronze—adjustable.
1—141" Beloit complete with distributor roll.

JORDANS

2—22 Miami Ball Bearing with spare plugs.
2—Jones Standard, with motor bases and couplings.
1—Jones Standard—ball bearing direct connected to 150 h.p. G.E. 440 volt motor.
1—23 Miami, for motor drive.
1—Jones Majestic, roller bearing—stainless steel fillings—for motor drive.
4—Jones Majestics with base and couplings—bronze filled, 2 sets of new bronze fillings.
3—23 Appleton with base and coupling—bronze filled.
1—Dillon Horne 22—direct connected 75 h.p. Stainless steel ¼" filling.
1—24 Smith & Winchester—Ball bearing.

MOTORS

1—Fairbanks Morse — 30 h.p. — 495 r.p.m. — 220-440/550
1—Hollanco 25 h.p. ball bearing, 550 v., 3 phase, 60 cycle—1750 r.p.m.
1—General Electric 150 h.p.—440 v.—3 phase—60 cycle—600 r.p.m.
1—General Electric 200 h.p. induction, 440 v. 3 ph. 60 cyc. 300 r.p.m. with GE starter.
1—General Electric 350 h.p. synchronous type TS 440 v. 3 ph. 60 cyc. 400 r.p.m. with exciter GE starting panel.

PRESS ROLLS

1—110" face x 19" diameter—rubber.
1—101" face x 18½" diameter—rubber.
1—123½" face x 17½" diameter—rubber.
1—112" face x 15" diameter—rubber.
1—127" face x 17½" diameter—brass.
1—117" face x 24" dia.—Brass.
1—94" face x 20" dia.—Rubber.
1—118" face x 22" dia.—Rubber.
3—118" face x 21" dia.—Rubber.
3—147" face x 11¾" dia.—Rubber.
1—74" face x 12" diameter—Rubber.
1—100" face x 17" diameter—Rubber.
1—102" face x 18" diameter—Rubber.
1—119" face x 17" diameter—Brass.
1—76" face x 10" diameter—Brass.
1—53" face x 14" diameter—Brass.
1—33" face x 12" diameter—Iron.
1—55" face x 12" diameter—Iron.
1—74" face x 18" diameter—Iron.
1—73" face x 14" diameter—Iron.
1—102" face x 18" diameter—Brass.

PULLEYS

30—Split cast iron tapered Pulleys.

PULP EQUIPMENT

1—Jigger—1 deck—vibrating screen.
1—Mitts & Merrill 217 Pulpwood chipper.
1—8" Carthage Disc Barker
1—88" Carthage Ball Bearing Chipper—4 knife.

PULPERS

3—22 Lannoye Pulpers—with drives.

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44—Centrifugal Pumps. Direct connected. Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year.

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1—Morris open impeller—9" suction—5" discharge—belt driven.
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1—New Gould 6" suction 4" discharge 500 g.p.m. 40' head. Requires 15 h.p. at 1750 r.p.m.
1—Warren—10 x 8. 1000 g.p.m.—30' head—Belt drives.
1—De Laval 8 x 6. 250 g.p.m. 30' head—for motor drive.
1—De Laval—6 x 6. 500 g.p.m. 30' head—for motor drive.

REELS

2—Beloit 110" two bowl Reel.
1—P & J 76" 2 bowl reel.
1—Beloit 132" two bowl upright reel.
1—Beloit 116" two bowl upright reel.

ROLLS

3—18" diameter x 120" face with ball bearings and stands. Bored for steam.
250—Brass, Steel Rolls. Assorted sizes.

ROTARY SCREENS

2—Jones Leitzwalk—cylinder 84" face x 28" diameter.
1—32 Leith-walk-ball bearing.
1—23A Bird with motor. Used less than 1 year.

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3—Valley Voith Screw Presses Size 2A, with new spare sets of plates.

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1—Hamblet 51" Single Knife with 6 roll back stands and motors.
1—Hamblet 81" Single Knife with 6 roll back stands and motor.
1—Beloit Duplex 104", complete with drives.
1—Hamblet Duplex—136".

SHREDDERS

3—Sprout Waldron Cutters — type F-11 — 30" knives. Used 30 days.

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3—Pusey & Jones 100" high speed slitters and rewinders.
1—42" Cameron Model 6, with 15 slitters.
1—New 50" Cameron Model 6.
1—Beloit 2 drum 125" with 8 slitters.

STUFF PUMPS

1—Shartle 8½x12 Triplex—Silent Chain Drive.

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1—Millspaugh 22" diameter x 138⅝" suction face
1—Millspaugh 22" diameter x 158" drilled face.
1—Beloit 107" drilled face x 22" diameter. Anti friction bearings.
1—Millspaugh—14½" diameter x 93" drilled face.

SUCTION PRESS ROLLS

1—Downingtown 25" diameter x 100" drilled face.
1—Beloit 22" diameter x 105" drilled face for direct drive. Anti friction bearings.

SUPER CALENDERS

3—7 roll 62" face.
2—7 roll 68" face.
1—7 roll 56" face.

TRIMMERS

1—61" Seybold Precision with motor and five spare knives.
1—36" Universal Trimmer.

VACUUM PUMPS

1—H2 Nash for motor drive.

YANKEE DRYERS

1—Beloit 10' diameter x 132" face with stands, gears, bearings and drive.
1—Beloit 12' diameter x 132" face with stands, gears, bearings and drive.

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1—42" Type 40.

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1—50" and 1—60" Type 28, Model 3D.

1—52" Type 8-S.

1—62" and 1—65" Type 9.

1—62" Type 10-S.

3—62" Type 40-1AF.

1—72" Type 10, Model 6. Ball Bearing. Speeds up to 1500 FPM.

1—Practically new 42" Kidder Merchant Model Shear Cut slitter and rewinder complete with 7½ HP Variable Speed motor equipment.

1—40" Kidder Model SL Slitter & Rewinder. Complete with 60 sets of cutters and rewind shafts.

1—60" Kidder Model SH Slitter & Rewinder. Rewinds up to 40" diameter.

1—48" Inman Board Slitter and Rewinder. Rewinds 48" diameter rolls.

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1—50", 1—65" and 1—84" waxing machine.

1—Brand New Potdevin #102 Flat and Square Bag Machine, making bags from ¼ to 6 lbs.

3—Potdevin Flat & Square Bag Machines. Models 292, 294 and 391.

1—30" Waldron Embosser, diamond, moire, and canvass patterns.

1—45" German Dornbusch Embossing machine with two sets of embossing rolls.

1—36" and 1—45" Beck Rotary Sheet Cutters with 3 roll backstands and jogger delivery table.

3—69" Hamblet Rotary Sheet Cutters. With 3 sets of rotary slitters and 8-roll double-deck backstands.

1—72" Hamblet Single Rotary Sheet Cutter with 3 sets of rotary slitters.

1—72" Hamblet Single Rotary Sheet Cutter with Slitting Attachment, Automatic Layboy and 12-Roll Double-Deck Backstands.

1—82" single Hamblet rotary sheet cutter with layboy and 24 roll backstands.

1—84" Hamblet roller bearing new duplex sheet cutter. Model 28, complete with slitting attachment. 3 pairs of slitters. GE Thymotrol Motor and Controls. With new Hamblet 84" electrically driven duplex layboy and two roll backstands for 38" diameter rolls.

1—96" Clark Aiken anti-friction bearing Single Rotary Sheet Cutter with slitting attachment. Moore & White 5 partition Layboy and 6 roll double-deck backstands. Excellent condition.

1—110" Downingtown Duplex Rotary Sheet Cutter. With two Llewellyn Variable Speed Drives.

1—Noble & Wood Belt Driven Pony Jordan.

6—Shartle Washer Breaker Beaters—Rolls 80" x 55".

1—81" Dietz Facial Tissue Paper perforator, 4½" perforation.

2—81" Dietz Toilet Paper Perforators. Sheets 4½ x 4½ and 4½ x 5 and paper towels perforated 7⅛ and 13¾".

2—42" three color Aniline Printing Presses. One Kolback and one Wolverine.

1—Ohio Horizontal Baler. Makes bales 17 x 22 x standard lengths.

1—Lannoye Pulper with Kenny-Falk Coupling and Gear Reducer.

1—200" Face Farrell Roll Grinder. 30" Swing.

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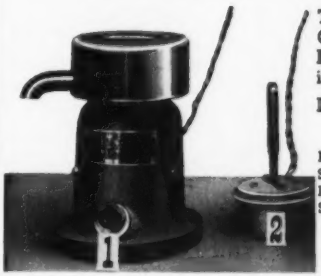

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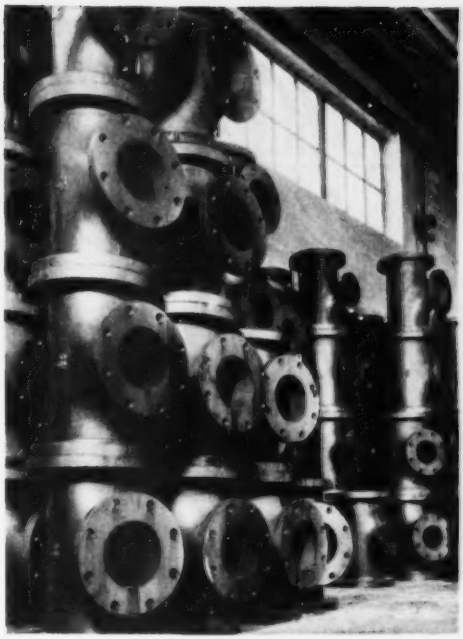

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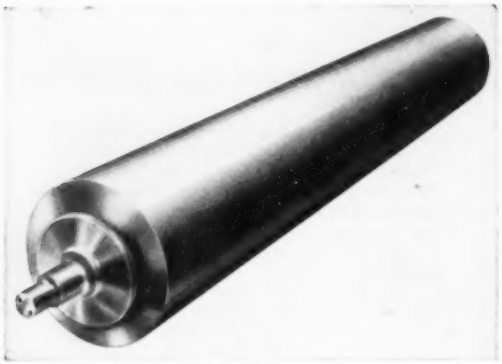

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DIRTEC
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The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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Bird Machine Co.
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Chain Belt Company
Davis, Frank H., Co.
Dilts Machine Works
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
Murray, D. J., Mfg. Co
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
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Shartle Brothers Machine Co.
Syco Mfg. Co.
Valley Iron Works Co.
Westinghouse Electric Corp.

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Stickle Steam Specialties Co.

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E. I. du Pont de Nemours & Co., Inc.
Geigy Co., The
General Dyestuffs Corp.
National Aniline Division, Allied Chemical & Dye Corp
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Witco Chemical Co.

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The Midvale Company
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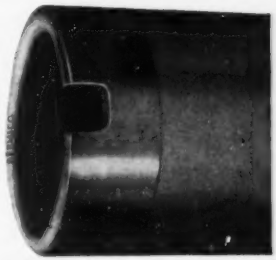

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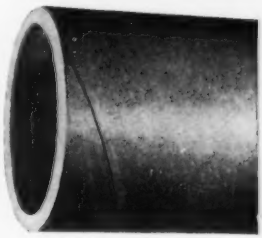

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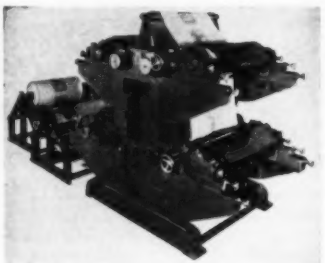

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WIRE BRUSHES
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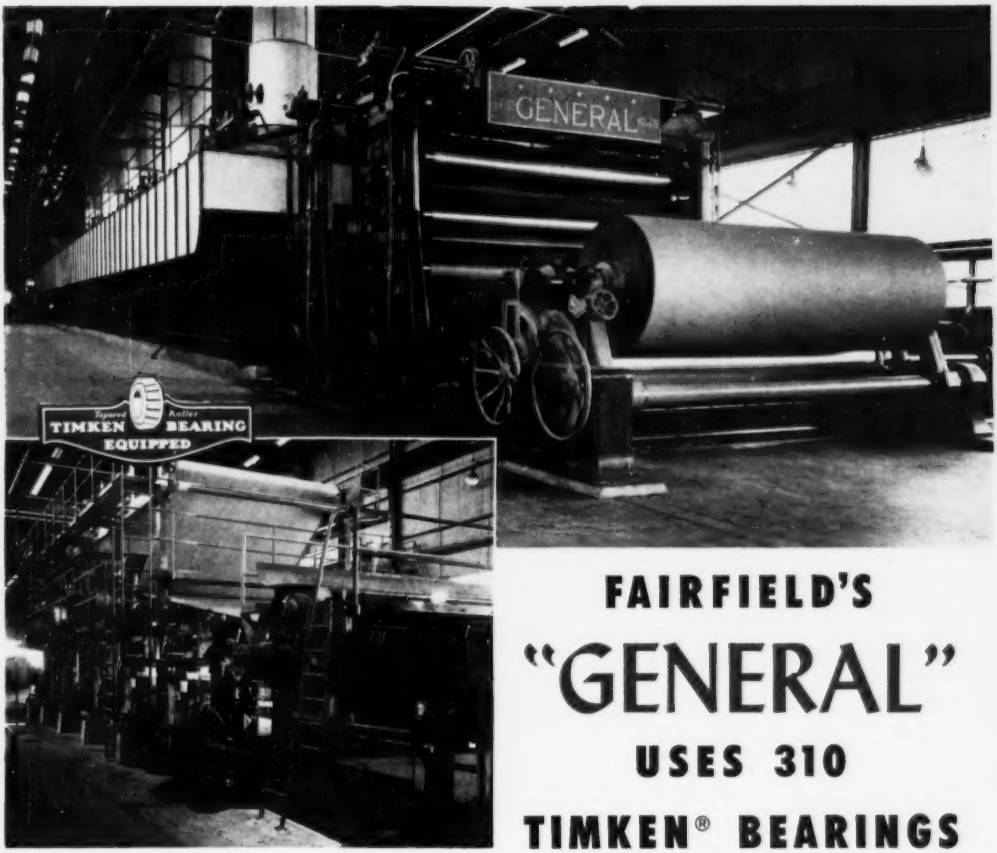

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